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OF THE
ROYAL ASIATIC SOCIETY
OF
GREAT BRITAIN AND IRELAND.

NEW SERIES.

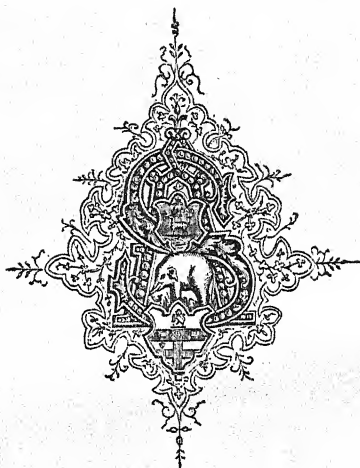


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ROYAL ASIATIC SOCIETY.

PROCEEDINGS

OF

THE SIXTIETH

ANNIVERSARY MEETING OF THE SOCIETY,

Held on the 21st of May, 1883,

THE RIGHT HON. SIR H. BARTLE E. FRERE, BART.,

G.C.B., G.C.S.I., PRESIDENT, IN THE CHAIR.

Members.—The Council of the Royal Asiatic Society have to report to the Members of the Society that, since the last Anniversary Meeting, held in the Society's House on Monday, May 15, 1882, there has been the following change in and addition to the Members of the Society.

They have to announce with regret the loss by *Death*, of their *Resident* Members—

Sir John McNeill, G.C.B.

Captain Gill, R.E.

Philip Melvill, Esq.

Major-General Ludlow.

N. B. E. Baillie, Esq.

Benjamin Hutt, Esq.

E. H. Palmer, Esq.

of their *Non-Resident* Members,

Arthur C. Burnell, LL.D.

Professor R. T. Reid, LL.D.

Professor MacDouall.

and of their *Honorary* Members,

Prof. Dorn.

The loss to the Society being four *Resident* paying Members, and one *Non-Resident*.

On the other hand, they have much pleasure in announcing that they have elected as *Resident* Members,

H.R.H. The Duke of Connaught, K.G.
 The Lord Wentworth.
 Sir Henry Peek, Bart., M.P.
 Sir William Andrew, Kt., C.I.E.
 General George Ramsay.
 Major-General R. P. Anderson.
 Cuthbert Peek, Esq.
 W. Mackinnon, Esq.
 Alexander Hamilton Howe, M.D.
 E. H. Whinfield, Esq.
 W. E. Windle, Esq.
 John Fenton, Esq.
 St. John Fairman, Esq.
 Sir Ashley Eden, K.C.S.I.
 Francis Mathew, Esq.
 F. V. Dickens, Esq.
 Sir Thomas Brassey, K.C.B., M.P.
 Andrew Cassels, Esq.
 Philip S. Melvill, Esq., C.S.I.
 Caspar Purdon Clarke, Esq., C.I.E.
 W. Lindley, Esq., C.E.
 Rev. W. Rose Shanks.
 W. M. White, Esq., Sec. R. S. Brit. Arch.
 M. M. Bhownaggee, Esq.
 Major-General Pitt-Rivers, F.R.S.
 H. H. Howorth, Esq., F.S.A.
 C. J. Stone, Esq., Barrister-at-Law.
 The Rev. C. F. Mermagan.
 Cecil Bendall, Esq., Fellow of Caius College, Cambridge.
 C. W. Payne, Esq., Boden Sanskrit Scholar.
 C. E. Wilson, Esq., Assistant Librarian, Royal Academy.
 F. Verney, Esq.
 H. M. Becher, Esq., of the School of Mines.
 J. R. D. Hickie, Esq.
 J. D. Haggard, Esq.
 Robert Lilley, Esq.
 C. Compigné, Esq.
 G. H. Pedder, Esq., Member of the Indian Council.

and as *Non-Resident* Members,

H.H. The Khedive of Egypt.
 H.H. Maharana Sajjun Singh, of Oodeypur.
 H.H. The Prince Prisdang.
 M. A. Pandia, Esq.

Frederick Holmwood, Esq., H.B.M. Consul, Zanzibar.
E. Colborne Baber, Esq., Sec. Leg. Peking.
The Right Hon. Sir James Fergusson, Bart., Gov. of Bombay.
Sir James D. Gordon, K.C.S.I.
H. Soltan, Esq.
S. D. Bhabha, M.D.
Rev. P. J. Oliver Minos.
Rev. James Sibree.
G. Geflowski, Esq.
John Anderson, M.D.
F. Ballu Morse, Esq.
Samaldaan Kubi Raj.
W. Rockhill, Esq.
Lieutenant-Colonel M. Smith.
W. M. Ramsay, Esq.
N. E. A. Graydon, Esq.
Thomas Rumball, Esq., C.E.
The Rev. A. Hilliard Atteridge, S.J.
Professor Gustav Oppert.
Joshua Duke, Esq., M.D.
M. Abd-ul-Majid.
S. R. Dâs, Esq.
Jushie Mori, Esq., Japanese Minister at the Court of St. James.
Vincent A. Smith, Esq., Bengal C.S.
H. Dyer Ball, Esq.
Cecil J. R. Le Mesurier, Esq., R.A.
Lionel R. Ashburner, Esq., Member of Council, Bombay.
Dr. Ernst Leumann.
Hamid Ali Khan.
G. F. Sheppard, Esq.

The Society has, therefore, elected 38 *Resident* Members against a loss of 4 *Resident* Members, and 34 *Non-Resident* Members against a loss of 1 *Non-Resident* Member; in other words, the actual gain to the Society, since the last Anniversary Meeting, has been 34 *Residents*, and 33 *Non-Residents*, in all sixty-seven.

On the personal history of some whom we have lost, and of other distinguished Oriental Scholars, not Members of the Society, who have been taken from us during the past year, a few words will now be said.

The Right Honourable Sir John McNeill, G.C.B., the last of the original Members of this Society, with which he had therefore been associated for a little more than sixty years, died at Cannes on May 17, 1883.

Sir John McNeill was born in August, 1795, and had, therefore, nearly completed his 88th year.

Sir John McNeill entered the Bombay Medical Service in 1816, and retired from it with the rank of Surgeon in 1836. He had been shortly before attached to the British force in Persia, having been appointed Secretary to the Embassy of Congratulation to the Court of Persia, June 30, 1835. On January 14, 1836, he received His Majesty's Royal Licence to accept and wear the insignia of the Persian Order of the Lion and the Sun (1st Class), and on February 9, 1836, became Minister Plenipotentiary to the Shah, and on May 25, 1836, Envoy Extraordinary and Minister Plenipotentiary to the same Court. This high office he held till August 5, 1842. In 1855 he was appointed by Lord Panmure to serve with the late Colonel Sir A. Tulloch as Commissioner to inquire into the Commissariat Department of the Crimean Army ; and, for this purpose, went on a tour of inspection to the Crimea. For his services in this capacity he was sworn in a Privy Councillor, in 1857. He was, also, for twenty-three years, from 1845 to 1868, Chairman of the Poor Law Board of Scotland. Though his health had been gradually failing, his memory and ordinary faculties remained to the last scarcely, if at all, impaired. Sir J. McNeill married—1. Innes, daughter of Mr. G. Robinson, of Clermiston, Midlothian. 2. Elizabeth, daughter of the late Mr. John Wilson. 3. In 1870, Lady Emma Augusta Campbell, only sister of the Duke of Argyll, who survives him. Sir John was the younger brother of the late Lord Colonsay, and uncle to Sir John Carstairs McNeill, K.C.B., V.C.

Dr. Arthur C. Burnell, Phil.D., C.I.E., one of the most eminent of recent Indian scholars, and for some years a Member of this Society, died at his brother's residence, at Mitcheldever, in Hampshire, on October 12, 1882, at the early age of 42. The son of the late Arthur Burnell, of the East India Company's service, he was born in the year 1840,

and, after studying at King's College, London, passed for the Indian Civil Service, in the fourth year of the competition system, and went to India in 1860, holding till 1868 subordinate posts of the Madras Presidency from Malabar on the West Coast to Nellore on the East. After two years of rest in England, Dr. Burnell returned again to India in 1870, to act as a District Judge, in various districts, but for the longest time at Tanjore. Having had his attention called, some years previously, to the magnificent library of Sanskrit MSS. belonging to the Maharaja of that place, by an account of it given to Prof. Goldstücker by the Prince Frederic of Schleswig-Holstein, Dr. Burnell was deputed by Lord Napier of Ettrick, then Governor of Madras, to report upon it. For this purpose, Dr. Burnell spent eleven months at Tanjore, preparing, during this period, the rough slips for about 12,376 MSS. and partially classifying and sorting them, as a commencement of the more serious labour of the catalogue. But this duty was subject to many and serious interruptions—as, on one occasion, he was away some hundreds of miles for more than two years—the result being that the work was not completely finished, in three parts, printed by Messrs. Stephen Austin and Sons, till 1880. These three parts contains respectively—Vol. I. Vedic and Technical Literature. 2. Philosophy and Law. 3. Dramas, Epics, Puranas and Tantras. The whole work occupies 208 pages of large 4to., with 30 pages of elaborate Indices, compiled by Dr. Rost, the Librarian of the India Office, each page containing three columns of names of the authors and the works accredited to them. Dr. Burnell states that his “Elements of South Indian Palæography” (1st ed. Bangalore, 1874, 2nd ed. Lond. 1878), was originally intended as an introduction to this Catalogue; a work which, as has been well noted by Prof. F. Max Müller, opens out “an avenue through one of the thickest and darkest jungles of Indian Archæology, and is so full of documentary evidence as to remain indispen-

able to every student of Indian Literature." It is, in fact, as Dr. Müller adds, the foundation of Holle's "Tabel van Oud en Nieuw Indische Alphabetten," published last year at Batavia. Dr. Burnell considered the Tanjore library was the outcome of the collections of about 300 years, the commencement of it having been due to the Rajas of Tanjore, its completion to the Mahratta Princes. It is satisfactory to know that, though this famous collection has, in former days and even recently, suffered much from plunderers and borrowers (names but too frequently convertible), the MSS. "are now, at all events, secured in cabinets, and, as they are numbered consecutively, no difficulty can be experienced in finding any particular one." We may add that Prof. Max Müller has shown that the "Dekhan is richer in Sanskrit MSS. than is generally supposed, as it formed the refuge of Sanskrit learning when it was driven out of the Northern Provinces by the Muhammadan Conquest."

Dr. Burnell was a vigilant collector of books, of very different kinds. Thus, early in his career, he made a considerable collection of Sanskrit MSS., of which he published a catalogue in 1870, Part I. Vedic MSS., the whole of this collection being now in the India Office Library. Prof. Müller adds, with regard to them: "Few Vedic texts have been published for which Dr. Burnell's valuable Grantha MSS. were not placed under contribution." Later on, he formed a second library, at a large private outlay, his then object being the drawing up, with Colonel Yule, of "A Glossary of Indian Terms." This work, we hear, will be published sooner or later by Mr. Murray: it has been long looked for. Still later he took up again one of his early loves, the History of the Portuguese in India, and printed more than one paper bearing on this interesting subject. Even so late as the spring of 1881, he made an excursion through the chief cities of Northern Italy, after he had been compelled to leave India and to take up his residence at San Remo, in search of

rare books. Writing to a friend in March of that year he says: "The printing is going on. I have nearly everything printed about Hippocrates to refer to—many a huge folio; how I shall get them to England I don't know." While at Venice, during this tour, it may be added, he found an Italian version of a letter from the King of Portugal to the King of Castille giving an account of the Portuguese voyages and conquests in the East Indies. This rare letter he reprinted, with many valuable notes, in a small presentation edition.

Besides the works just alluded to—and we give, besides these, at the end of this notice, as complete a collection as we have been able to procure—should be noticed his volume "On the Aindra School of Sanskrit Grammarians," Mangalore, 1875, in which he propounded a new theory on the development of grammatical science in India, which, if it has not met with general acceptance, has, at all events, set scholars thinking and working in a new direction.

Dr. Burnell is chiefly known as an eminent linguist and palæographer, but he was also well versed in many other branches of science, hence was able to aid other students in very diverse branches of knowledge. Thus, when paying a brief visit to Java in 1876, he met there Miss North, then engaged on her beautiful tropical drawings; and when, at the end of the next year, she visited Tanjore, he was able greatly to facilitate her work, acquainted as he was with the botanical history of almost every Indian tree. Many of the Sacred Plants of India were procured for her by his exertions, and the edifice which bears her name in Kew Gardens contains many reminiscences of Tanjore procured for her by Dr. Burnell.

There can be little doubt that the severe labour he underwent during his last year's work on the Tanjore catalogue, with the additional official duties imposed on him at Tranquebar, besides those he had previously had at Tanjore, finally broke

down a constitution never strong. In 1879, Dr. Burnell was compelled to make a flying visit to England for medical advice, the result being that he returned to India rather shaken than improved. The year following he obtained furlough—was in fact hurried away from India by his medical advisers, having received a slight stroke of paralysis. The voyage did him good, but he, unwisely, in the autumn went to Carlsbad, where, while otherwise improving, he had a severe attack of pneumonia, probably the direct cause of his untimely death, and had to take refuge, for the two following winters, at San Remo. The immediate cause of his fatal illness, last autumn, was a severe cold he caught, which culminated in inflammation of the lungs, his long previously debilitated state not enabling him to combat his new malady.

Dr. Burnell was an elaborate writer on all sorts of subjects, though, naturally, for the most part, with an Oriental object or tendency. The following is, we believe, a tolerably correct list of what he has published, but there may be some other papers which have escaped our notice.

1. *Dâyavibhāga*. The Law of Inheritance. From the published Sanskrit texts of the *Vyahavahârakanda* of the *Madhaviya Commentary* of the *Parâcarasmriti*. Madras, 1868.

2. Catalogue of a Collection of Sanskrit MSS., Part I. Vedic MSS., with many extracts. Madras, 1869.

3. A few Suggestions as to the best way of making and utilizing Copies of Indian Inscriptions. Madras, 1870.

4. The Law of Partition and Succession. From the MS. Sanskrit text of *Varadarāja's Vyahâvahanirnaya*. Mangalore, 1872.

5. Specimens of South Indian Dialects, consisting of versions of the Parable of the Sower (St. Matthew xiii. 1-34), with Grammatical and Ethnographical Introductions. By A. B. 16mo.

1. In the Konkani Dialect spoken by the Roman
ies of South Canara. Mangalore, 1872. Second Edition,
alore, 1873.

In the Dialect of Malayalim spoken by the Mappilas
with Canara, and of Amîndivi (Laccadive) Islands. In
Mappila-Arabic characters and in Lepsius's Standard
bet. 1873.

in the Kodagu (Coorg) Language, by the Rev.
 1873.

In the Tanjore Dialect of Tamil. Tranquebar, 1876.

In the Language of the Todas (Nîlagiri Hills), by the
F. Metz. 1873.

In the Dialect of Canarese spoken by the Badagas of
Nagiri Hills, by the same. 1873.

[In the Dialect of Konkani spoken by the Sarasvati
tribes of South Canara.

In the Kundâpur Dialect of Canarese.

Ethnography of the S.W. Frontier of the Aryan and
 lian races. 1873.

In the Tanjore Tamil-Brahman Dialect. Tranquebar,

The Samavidhāna Brāhmaṇa of the Sama-Veda, edited
the Commentary of Sayana, an English Translation,
uction and Indexes. Vol. i. containing the Text, with
roduction. London, 1873.

The Vamṣa Brahmana of the Sama-Veda, with an introduction on Sayana's life and works, his Commentary and 8vo. Mangalore, 1872.

The Devatadhya̐ya Brāhmaṇa of the Sama Veda with
a's Commentary, Index, &c. 1873.

On some Pahlavi Inscriptions in S. India. Mangalore,

Elements of S. Indian Palæography. Mangalore, 1874.
dition, Mangalore, 1878.

Dayadacaçloki, with Translation. Mangalore, 1875.

12. On the Aindra School of Sanskrit Grammarians. Mangalore, 1875.

13. Arsheya Brāhmaṇa of the Sama-Veda, with Extracts from Sayana's Commentary, an Introduction and Index of Words. Mangalore, 1876.

14. The Samhitopanishad Brāhmaṇa of the Sama-Veda, with an anonymous Commentary. 1877.

15. A legend from the Jalavahāra or Jaiminiya Brāhmaṇa. 1878.

16. The Jaiminiya Text of the Arsheya Brāhmaṇa. 1878.

17. The Riktantravyakarana, a Pratiśakhya of the Sama-Veda. Pt. 1. containing Text, Introduction and Indexes. 1879.

18. Classified Index to the Sanskrit MSS. in the Palace at Tanjore. Prepared for the Madras Government. 4to. Pts. 1-3. 1879-1880.

19. Tentative list of Books and MSS. relating to the History of the Portuguese in India Proper. Mangalore, 1880. Of this curious work, it is a pity that only twelve copies were printed.

It may be added that, in the year 1876, Dr. Burnell published at his own expense the famous Beschi's "*Clavis humaniorum litterarum Sublimioris Tamulici idiomata*"; and that he had in contemplation other works of importance, such as the Translation of the Laws of Manu for "*Trübner's Series*." This last work has, we believe, been left by him nearly complete. He, also, contemplated an edition of *Shāḍimcābrahmaṇa* of the Sama-Veda, with Sayana's Commentary, English Translation, etc.; the *Sarīsvatīvilāsa*, on Inheritance, translated into English; the Law of *Strīdhana*, considered historically; and the Religions and Philosophies of the S. of India, being an attempt to trace these systems to their native and foreign sources, with the causes of the spread of N. Indian civilization among the Dravidian or Indo-Pacific races. He had, also, in view, a history of the Portuguese in India from original sources. We are not aware to what

extent he had progressed in these several labours. But, for the sect called "The Positivists," he reprinted at his own cost, in 1880, Adam Smith's treatise "On the Principles which lead and direct Philosophical Enquiries"; and, in 1881, "Hippocrates on Airs, Waters, and Places, the received Greek Text of Littré, with Latin, French, and English translations by eminent scholars."

Dr. Burnell was too busy a man to contribute much to what may be called periodical literature, but there is one paper by him in the Trans. D.M.G. vol. xxii. p. 326, 1868, viz. a Letter to Dr. Rost (Camp Ongole, Feb. 4), On Sanskrit MSS. procured by him in S. India.

The cause of Oriental Exploration has suffered a severe loss by the murder of *Captain Gill, R.E.*, in company, it is believed, with Prof. Palmer and Lieut. Charrington. Captain Gill was first known to the public by a journey he made in various parts of Persia, in company with Colonel Valentine Baker, these two officers having left England in the early part of 1873, with the object of exploring the Atrek valley. In the course of these travels, they visited Tiflis, Baku, Asterabad and Teheran, and, though partly disappointed as to the special object of their journey, brought back with them route surveys, which have added much to our knowledge of the geography of that part of Asia. On their return to England, Colonel Baker published an account of their joint travels, with the title "Clouds in the East."

But Captain Gill's later journeys in China were his most important achievements. In Sept. 1876, he reached that country, and, after making some excursions to the N. E. of Peking, returned to Shanghai, to make preparations for his adventurous journey through more than the breadth of the Chinese Empire into Burmah. Having sailed up the Yangtse-Kiang to Chung-ching, a distance of more than 1500 miles, Capt. Gill struck northwards to the "Wasser-schiede" of the Min and other rivers, and returning to Cheng-tu, started

again Westward with the object and the hope of reaching Kashgar through Tibet. Here, however, he was foiled by the Lamas, and had, in the end, to strike to the South from Batang to Talifu, and so on to Burmah. The details of this remarkable journey he has given in his "River of Golden Sand."

After his return from China, Capt. Gill was sent on a special mission to Constantinople, whence, having obtained six months' leave of absence, he hurried out to Afghanistan, and arrived in time to join General McGregor's campaign in the Marri country, though he was unable to follow the march onward from Cabul to Candahar. On the outbreak of hostilities in Northern Africa, Capt. Gill went to Tripoli; but there, as in Central Asia, he was not allowed to proceed any further in the direction he wished. Capt Gill was an ardent and intrepid explorer, but he was not rash or imprudent. The conscientious accuracy of his scientific work as a traveller is unquestionable; indeed, he was charged, though needlessly, with even too great accuracy by Baron Richthofen, who said of him that he abstained "from laying down on his map anything lying at some distance from the road." Indeed, his scheme of the orography of Eastern Tibet, as exhibited in the contour lines of his Map, is an undeniable proof of his ability in this respect.

The late *Mr. Philip Melvill* was the son of Captain Philip Melvill, of Pendennis Castle, Cornwall, of which he was Lieut.-Governor. Mr. Philip Melvill was born at Topsham, Devon, on Sept. 26, 1796; he was the fifth of nine children, of whom four sons attained to manhood, and made themselves well known in various duties in which they were engaged, viz. the late Sir James Cosmo Melvill, the subject of the present notice, the late Rev. Henry Melvill, Canon of St. Paul's, and Major-General Sir Peter Melvill, K.C.B., who is still alive.

Mr. Philip Melvill entered the service of the Hon. East India Company in April, 1811, as a clerk in the Military

Department in the old India House, Leadenhall Street. He was appointed as an Assistant to the Secretary in that Department in 1814, and was promoted to the Secretaryship in 1837, from which period he acted as Military Secretary chief, till his retirement in December, 1858, when the old establishment of the East India House was fully amalgamated with the Board of Control, in consequence of the transfer of the Government of India to the Crown. His services, as Military Secretary, were highly appreciated by the Court of Directors of the East India Company, as well, perhaps even more, his urbanity and kindness to the officers of the Indian Army, their widows and others, who came to him for advice or help. On retiring from the East India Company's service, he settled at Ethy, in Cornwall, where he died on Oct. 4, 1882, aged 86.

Mr. Melvill was the father of Lieut. Teignmonth Melvill, who, with Lieut. Coghill, saved, but with their lives, the Colours of the 24th Regt. at Isandhlwana. His eldest and only surviving son is P. S. Melvill, C.S.I., who for some years was the Resident at Baroda. Mr. Philip Melvill took a warm interest in the proceedings of this Society, of which he was one of the oldest Fellows.

Professor E. H. Palmer, was born at Cambridge in 1840, and in early life was a clerk in a City house, the chief advantage to him of this appointment, so far as his later career was concerned, being that he, thereby, acquired a thorough knowledge of French and Italian.

In 1860, he gave up this occupation, and, returning to Cambridge, entered St. John's College as an Undergraduate; and, for some years, devoted his energies to the acquisition of Arabic and Persian, the result being, that, though the honours he acquired, as a classical student, were not high, the Society of St. John's recognized the value of his special studies, by electing him a Fellow of the College. This was, we believe, the first appointment ever given by an English College, except for

eminence in Mathematics or Classics. In 1869, Prof. Palmer made his first journey to the East in company with Captain (now Colonel Sir Charles) Wilson, and the late Rev. F. W. Holland, some of the results of which journey, chiefly linguistical, will be found in the publications of the Palestine Exploration Fund, vol. i. 1870, pp. 254 and 311. These researches, the first of which any record has been preserved, show the spirit in which Mr. Palmer took up Oriental matters, for which, no doubt, his previous seven years' study at Cambridge had peculiarly fitted him. The papers in question are, letters from the Convent of St. Katherine, Sinai, from Kala'at Nakhl, The Tih, and from Jerusalem. These show how readily Prof. Palmer apprehended and mastered dialectical differences in language, and the tact he could bring to bear on the investigation of the Traditions, Dialects and Antiquities of the Sinaitic Peninsula. The reader of these letters will have before him a clear account of the MSS., remaining still, in spite of Tischendorf and others, in the Convent of Mount Sinai, with a scholar's judgment as to their real value.

In 1870, the Committee of the Palestine Fund engaged his services for an Exploration of the little-known Nejb or South Country and the Desert of the Tih, a work in which he was associated with the late C. F. Tyrwhitt Drake, a scholar and explorer of whom it is difficult to speak more highly than has spoken the present Archbishop of Canterbury, his Master for some years at Wellington College.

Mr. Palmer's report of the results of this Journey was published in the Quarterly Statement of the Palestine Exploration Fund, and his memoir has been since republished in the "Memoirs of the Survey of Western Palestine." Mr. Palmer also wrote a popular account of the same expedition, entitled "The Desert of the Exodus." In the course of this journey, in which he was associated with Captain Palmer, R.E., (no relation of his), Capt. (now, Sir Charles) Wilson, R.E.,

and the Rev. Mr. Holland, he remarked the extraordinary accuracy of the topographical notices in the Bible. Thus, the story of Samson and the foxes might, at first sight, appear to be curious but improbable; in travelling, however, through Palestine, Mr. Palmer saw how easily Samson could have destroyed the crops of the Philistines as told in Holy Writ.

In the same way, he settled the site of Ai, showing that its topographical position is minutely clear from the record of the Bible, as is, also, the place from which Abraham and Lot viewed the Promised Land.

In the same year, 1870, Mr. Preston having resigned the Lord Almoner's Professorship of Arabic, this office, not a very lucrative one, was given to him by the late Dean of Windsor. A few years later, we believe in 1874, he was called to the Bar; but, though he loved the intellectual pleasure of going on circuit, and of studying the forms of life developed in a county Assize, it may be doubted if he ever looked on the law as a profession. The greater part of the work by which Mr. Palmer will be known hereafter is that he accomplished between 1871 and 1881, work done always in failing health, asthma being his chief bodily complaint, and during much domestic affliction. These works comprehend a revision of Henry Martyn's Translation of the New Testament into Persian; an Arabic Manual; a Persian Dictionary; a report on the Bedawi of Sinai; a translation into Arabic of Moore's "Paradise and the Peri"; an edition, with English Translation, of the Arabian Poet Beha-ed-din Zohair; a new translation of the Koran for Prof. F. Max Müller's "Sacred Books of the East," vols. vi. and ix.; a history of Jerusalem; a life of the Khalif Harun-er-Rashid; the "Song of the Reed," chiefly from Arabic and Persian sources; a volume of verses in Romany, written in connection with Miss Tuckey and Mr. Leland; and a translation of the Swedish poet Runeberg. Besides these more distinct works, Mr. Palmer wrote much for

miscellaneous papers, as the British Quarterly Review, the Saturday Review, and several of the monthly Magazines. For the Palestine Exploration Fund he translated and transliterated the long lists of Oriental names procured by Capt. Conder and others during the Survey of Western Palestine. He was, also, engaged, at the time he started on his last fatal expedition, in preparing a set of manuals and grammars for Messrs. Trübner (two or three of them had already appeared). This was work for which his extraordinary knowledge of languages, as well as his remarkable facility in acquiring them, peculiarly fitted him. Oriental scholars will rejoice in what he was able to accomplish, and all scholars alike mourn his removal from among them by so untimely a fate. It ought to be stated that within the last few days an excellent sketch of the life of Prof. Palmer has been published by his old friend, Mr. Besant, and that it gives a fairly full account of his dealings with the Arabs shortly before his murder. There seems, however, yet to be something that ought to be told, but which, for various conceivable reasons, it may never be advisable to make completely public.

Of distinguished Oriental Scholars not members of the Society, it seems worth while to add the following notices:—

Prof. Bernhard Dorn, an Honorary Foreign Member of the Royal Asiatic Society, was born at Scheuerfeld, near Coburg, on May 11, 1805, and, after studying Theology and Eastern Languages at Halle and Leipzig, was appointed, in 1826, to the chair of Eastern Languages in the University of Charkoff, and, from this time onward, was in the general employment of the Russian Government. In 1835, he was transferred to St. Petersburg, as Professor of Oriental History and Geography in the Oriental Institute of St. Petersburg, becoming, at the same period, a member of the St. Petersburg Academy of Sciences, and, subsequently, in 1842, Director of the Asiatic Society, and, in 1843, Librarian of the Imperial Library. In this capacity, he published, in 1846, an account of the Asiatic

Museum of the Imperial Academy of Sciences, and, in 1852, a Catalogue of the MSS. in that collection. M. Dorn was an omnivorous Oriental scholar, and dealt with many and very varied branches of Oriental Literature. Thus, in 1845, he published "Grammatical observations on the Afghan Language;" in 1847, a "Chrestomathy of the Pushto or Afghan Language," for the "Oriental Translation Fund," and a History of the Afghans from the Persian of Neamut Ali, London, 1829-1836; and in 1850, at St. Petersburg, a History of Taberistân, Mazanderan, etc., 2 vols. Besides these, M. Dorn has published many special papers in different Journals, of which the following is, we believe, a comprehensive list. Thus, in the Transactions of this Society, Vol. II. p. 371, 1829, is a paper by him, entitled "Description of the Celestial Globe belonging to Major-General Sir John Malcolm, now deposited in the Museum of the Royal Asiatic Society;" and in the D.M.G. is *Bemerkungen über A. Mordtmann's Erklärung d. Müntz. mit Pehlw. Legenden* (xxi. p. 161, 1867). The largest number, however, of his separate papers have been printed in the valuable series, known by the name of "*Mélanges Asiatiques tirés du Bull. Historico-Philologique de l'Académie Impér. des Sciences de St. Petersburg.*" A large number of them, it will be seen, refer to Numismatic researches, to which Prof. Dorn gave much time and long study. Thus, we find, in vol. i. (1849-52), papers by him, entitled *Die letzten erwerbungen des Asiatischen Museums, i. J. 1848:—Noch ein paar worte über eine Munze des jetzigen Schahs von Persien:—Bemerkungen über eine Stelle in Koch's Wanderungen im Oriente während der Jahre 1843-4:—and, Ueber eine handschrift der Arabischen bearbeitung des Josaphat und Barlaam.* In ii. 1852-1856, *Die Berühmtesten Muhammedanischen Schönschreiber—Ueber die dem Asiatischen Museum seit dem Jahre 1850, zugekommenen Muhammedanischen Handschriften:—Die Muhammedanischen Handschriften der Herzoglichen Bib-*

liothek zu Coburg:—Ueber vier von der Kaiserlichen öffentlichen Bibliothek zu St. Petersburg im Jahre 1852 erworbene Syrische Handschriften:—Die Pehlewy Münzen des Asiatischen Museums der Kaiserlichen Akademie der Wissenschaften, III. Die Münzen der Ispehbede, Chalifen und deren Statt-halter:—Noch einige Nachweisungen über Pehlewy - Münzen:—Acquisitions nouvelles:—Suum cuique:—Ueber die letzten dem Asiatischen Museum zugekommenen Pehlewy-münzen:—and An die Historisch-Philologische Classe der Kaiserlichen Akademie der Wissenschaften. In iii. (1857-9) Ueber einige Muschel-Talismane:—Bericht über die von Hrn. Garde-oberst von Bartholomæi dem Asiatischen Museum verehrten Münzen:—Bericht an die historisch-philologische Classe über das werk “Le Caucase et ses alentours d’après Yakout par M. Khanikoff:”—Noch einige worte über ein auf Pehlewy-Münzen vorkommendes sogenanntes Münzzeichen oder Monogramm:—Neue ansichten in der Pehlewy münzkunde:—Nachträge zu den Neuen ansichten in der Pehlewy-Münzkunde:—I. Bericht über einige von Wirkl. Staatsrath Chanykow von Astrabad aus den Asiatischen Museum über sandte Geschenke. II. Bericht über eine vom wirkl. Staatsrath Chanykow dem Asiatischen Museum aus Mesched zugekommene sammlung. III. Bericht über die vom Wirkl. Staatsrath Chanykow aus Herat eingegangene Sendung von Morgenlandischen Handschriften:—Neun von General Bartholomæi dem Asiatischen Museum geschenkte Münzen:—Ueber eine Pehlewy Inschrift und die bedeutung des Wortes Avesta. IV. Bericht über drei von wirkl. Staatsrath Chanykow eingesandte Afghanische Handschriften:—Forschungen in der Pehlewy-Münzkunde I.:—Bericht über eine wissenschaftliche Reise ins Ausland:—Der Säbel Hadschi Murad’s (avec une planche):—Die von Hrn. Gussew dem Asiatischen Museum geschenkten Muhammedanischen Münzen:—and Ueber die vordem Dolgoroky’sche, jetzt der Kaiserlichen öffentlichen Bibliothek zugehörige sammlung von Morgenländischen hand-

schriften. In iv. 1860–3, Forschungen in der Pehlewymunkunde:—Über die von Wirkl. Staatsrath Chanykow dem Asiatischen Museum zugekommenen Sendungen von Morgenländischen Münzen und handschriften:—Bericht über eine wissenschaftliche reise in dem Kaukasus und den Südlichen Küstenländern des Kaspischen Meeres:—*De Arabicâ Novi Testamenti versione*, in *Imperiali Bibliothecâ publicâ Petropolitânâ asservatâ*:—Bericht über Hrn. Melgunov's werk "Bemerkungen über die Südlichen Küstenländer des Kaspischen Meeres." In v. 1864–8, B. Dorn und Ad. Goebel, Ueber neun den Asiatischen Museum zugekommene grabsteine mit Hebräischen Inschriften:—Dorn (alone), Eine munze des Schirwanschahes Minutschehr:—Die vor den Chanykov'sche jetzt der Kaiserl. öffentlichen Bibliothek zugehörige Sammlung von Morgenländischen handschriften:—Die bezeichnungen des Asiatischen Museums in J. 1864:—Nachträge zu den Verzeichniss der von der Kaiserlichen öffentlichen Bibliothek erworbenen Chanykov'schen handschriften und den da mitgetheilten Nachrichten über die Baby und deren Koran:—Das Asiatische Museum im Jahre 1865:—*Catalogue des ouvrages Arabes, Persans, et Turcs publiés à Constantinople, en Egypte et en Perse, qui se trouvent au Musée Asiatique de l'Académie*:—Chronologisches Verzeichniss der seit den Jahre 1801 bis 1866 in Kasan gedruckten Arabischen, Turkischen, Tatarischen und Persischen Werke, als Katalog der in dem Asiatischen Museum befindlichen Schriften:—Aus Baku. In vi. 1869–1873, Ueber die aus dem Nachlasse des Grafen N. Simonitsch von der Kaiserl. öffentlichen Bibliothek erworbenen Morgenländischen Handschriften:—Ueber die aus den Nachlasse des wirkl. Staatsrathes Graf dem Asiatischen Museum der Akademie zu gekommenen Morgenländischen Handschriften:—Zwei dem Asiatischen Museum zu gekommene Münz-erwerbungen:—Ueber eine dritte dem Asiatischen Museum im Jahre 1869 zugekommene Münzerwerbung:—

Einige bemerkungen zur Geographie Persiens:—Auszüge an zwei morgenländischen Schriftstellern, betreffend das Kaspische Meer und angränzende Länder:—Die wissenschaftlichen Sammlungen des Grafen de Gobineau:—Bericht über eine reise ins ausland:—Auszüge aus vierzehn morgenländischen Schriftstellern betreffend das Kaspische Meer und angränzende länder:—Zwei den Asiatischen Museum zugekommene steine mit Orientalischen Inschriften:—Ueber zwei für das Asiatische Museum erworbene Arabische werke:—Sieben aus dem Nachlass des Gen.-Lieut. v. Bartholomæi den Asiatischen Museum zugekommene Münzen:—Ueber eine für das Asiatische Museum erworbene sammlung von Neupersischen gemälden:—Auszüge aus vierzehn Morgenländischen Schriftstellern, betreffend das Kaspische Meer und angränzende Länder (continued):—Die jetzigen Kubätschi—Einer erlauterung zu Abu Hamid el Andalusy's Nachrichten über diese Volksstamm. In vii. 1873-1876, Auszüge aus vierzehn Morgenländischen Schriftstellern, betreffend das Kaspische Meer und angränzende Länder (continued):—Ueber die im Asiatischen Museum befindlichen briefe Schamil's und seiner anhänger:—Auszüge aus vierzehn Morgenländischen Schriftstellern, betreffend das Kaspische Meer und angränzende Länder (end):—Ueber drei den Asiatischen Museum das gebrachte Persische Handschriften:—Ueber die vom General-Adjutanten von Kaufmann der Asiatischen Museum verehrten Morgenländischen Handschriften:—Eine zweite bereicherung des Asiatischen Museums von seiten Hrn. Bakulin's:—Eine dritter sendung des Hrn. Bakulin's:—Ueber eine merkwürdige Timuriden-Munze. In viii. 1877-9, Die Fonton'sche Handschriften-Sammlung:—Sechs und achtzig Silber münzen mit Pehlewy-Inschriften:—and, lastly, Ueber die Semnanische Mundart.

Prof. Dorn, also, published in 1846, Das Asiatische Museum der Kaiserlichen Akademie der Wissenschaften zu St. Petersburg—a very valuable and interesting record, on which

he had been engaged for fourteen years. The work is, in fact, a brief but sufficiently complete history of the various Antiquities, and in an especial manner of the Coins, collected and exhibited there between its commencement in 1818 to the end of 1844. Combined with this, are 155 "beilage," containing curious lists of the different articles procured for the Museum (among them being many rare MSS.), with the date when they were obtained. In 1855, after the death of Fræhn, Prof. Dorn published Ch. M. Fræhnii opusculorum postumorum—Pars Prima, which is, indeed, chiefly a Supplement to that great Numismatist's large work.

Prof. Dorn was a large contributor to other Scientific journals of his adopted country. Thus, in the *Mém. de l'Acad.* 1865, vol. ix., is a very learned paper, entitled *Drei in der Kais. off. Bibl. Astrom. Instrumente mit Arab. Inschriften*: and in the *Bulletin*, some other papers which have not been, we believe, reprinted in the "*Mélanges*." Such are, in vol. i. 1860, On the Oriental MSS. of Prince Dolgorouky:—In vol. iv. report of his Journey to the Caucasus:—In viii. 1865, On the Chanykov's Oriental MSS., and a further paper, next year, on the same subject:—In x. 1866, a very important "*Catalogue des ouvrages Arabes, Persans et Turcs, publiés à Constantinople, en Egypte, ou en Perse, dans le Mus. Asiat. de St. Pétersbourg*":—In xi. 1867, *Catalogue Chronologique des ouvrages imprimés en langue Arabe, Turque, Tatare et Persane, à Kazan de 1801 à 1866*:—In xiv. 1870, on the Oriental MSS. acquired for the Imperial Library from MM. Simonitsch and Graf:—In xvi. 1871, *Auszuge aus zwei Morganländ. Schriftstellern betreffend das Kaspische Meer, etc.*:—and more on the same subject, in xvii. 1872, xviii. 1873, xix. 1873 and 1874:—xxi. 1876, *Sur une monnaie Timuride remarquable*:—xxiii. 1877, *Quatre-vingt six Monnaies d'argent avec Inscriptions Pehlavies*:—xxv. 1872, *Sur l'Idiome Semnan*, and lastly two papers, *Sur*

les Monnaies des Ileks, anciens Khans de Turkestan, in vols. xxvi. xxvii. 1880 and 1881. This is, probably, the last paper of his printed before his death, which took place on May 31, 1881.

The eminent Sanskrit scholar *Dr. Ernst Haas*, was born at Coburg in 1835, and received his first education in the grammar school of that town. From Coburg he went to the University of Berlin, and thence to that of Bonn, where he devoted himself at first, almost wholly, to the philology of the Teutonic and Romance languages. Later on, he took up Sanskrit, as the only sound basis for his other linguistic studies; and this new study possessed such an attraction for him, that he exchanged Bonn for Tubingen, a further inducement to him being, no doubt, that he was thus able to avail himself of the teaching of Prof. Roth. Thence, he returned again for another year to Berlin, studying there in the Royal Library, and under the immediate guidance of Prof. A. Weber. From the MSS. in that Library, he drew up an elaborate treatise on the marriage rites of the Ancient Hindus according to the Grihya Sutras. This paper, which was the first fruits of his Sanskrit studies and secured for him his Doctor's Degree at Tubingen in 1859, was subsequently published, with valuable notes by the editor, in the 5th vol. of Weber's *Indische Studien*, pp. 267-412. After spending two years of further study in Paris, Dr. Haas went to Scotland, where he remained for three years as a private tutor in Lord Minto's family: he entered the British Museum in 1866. From 1870 to 1876, he was engaged with Prof. Eggeling in cataloguing the Sanskrit MSS. at the India Office. As this work has not passed through the press, Sanskrit students are not yet able to see how much patient and accurate scholarship was devoted by Dr. Haas to this labour. His "Catalogue of the Sanskrit and Pali Books in the British Museum," however, issued in 1876, fully demonstrates how thoroughly he was acquainted with the

ancient and modern literary languages of India ; and is, at the same time, an amply sufficient test of his varied knowledge. Had he lived, he would probably have been able to bring out the far more extensive Catalogue of the books in the Indian vernacular dialects, as represented in the British Museum, on the compilation of which he had been working for years, before his fatal illness overtook him. This work is so far advanced, that his successor will find the plan of it fully traced out for him, and will have no difficulty, after clearing off the arrears which must have accumulated during Dr. Haas's long illness, in continuing the catalogue and arrangement of the Oriental (and in an especial manner of the Indian) books on the lines laid down by that scholar. Dr. Haas was deliberate and fastidious alike in speech and writing—and singularly methodical in whatever he undertook. Hence, he contributed little to literary Journals. He printed, however, two papers in the *Zeitschrift* of D.M.G. vol. xxx. pp. 617-670 and xxxi. pp. 647-66, one entitled, "On the origin of the Indian Medicine, with special reference to *Suṣṛuta*;" the other "On Hippocrates and Hindu Medical Science in the Middle Ages," both based on his examination of the Sanskrit Medical MSS. in the India Office Library. Though, perhaps, not wholly disproving the independent origin or remote antiquity of Indian Medicine, there is so much of new matter, and so many ingenious deductions in these papers, that they must always be referred to in any fresh discussion of the subject.

Cajetan Kossovich, the first Sanskrit Professor at the University of St. Petersburg, died on February 7, 1883. In early life, he studied chiefly in the University of Moscow, acquiring there a sound acquaintance with Greek and Latin literature, and especially with the philosophical writings of Plato. He was, however, to a great extent self-taught, at least in the philosophical subjects to which he subsequently devoted himself. His first occupation was that of a teacher in a gymnasium, first at Tambof, and afterwards

in Moscow ; and, while he was at the latter place, he translated into Russian Kühner's Latin Grammar. He, also, found time while in Moscow to acquire a knowledge of the Sanskrit language and literature, and, as a result of that study, to publish translations of the Mahabharata in the *Roskoe Slovo*. These translations were marked by their excellence as literary compositions.

Shortly afterwards he proceeded to St. Petersburg, where he obtained an appointment in the Public Library, and, ultimately, was appointed the first Professor of Sanskrit in that University. While there, he published the legend of the Doves from the Mahabharata, with abundant explanations, as a text-book for beginners. He then undertook the compilation of a Sanskrit-Russian Dictionary, which, unfortunately, he did not live to complete. Later in life he devoted much time to the study of Cuneiform Inscriptions, or rather of the Persian branch of this subject and especially to the inscriptions procured at Behistun, etc. It is greatly to be regretted that the publication of this costly and beautifully got up volume, involving him in expenses he had not anticipated, should have cast a shadow over his later existence and had a fatal effect on his health and spirits. Towards the close of his life he published a Hebrew Grammar, which has been extensively used in Russian schools, and at the time of the visit of the third Oriental Congress to St. Petersburg in 1876, he published and presented to the members of the Congress, a new edition of the "*Canticum canticorum*."

M. François Joseph Chabas, who was born at Briançon on Jan. 2, 1817, died after a lingering illness of six years at Versailles. Like M. Schliemann, M. Chabas was, originally, brought up to business, and, like him too, from very early years devoted all his leisure moments to intellectual pursuits and especially to the acquisition of ancient and modern languages. It was not, however, till 1852, when he was able to retire

from active life, and to settle down at Chalons-sur-Saône, that he turned his attention to Egyptology. It is remarkable how quickly he mastered this difficult science, which he took up comparatively late in life. His first work, "Note sur l'explication de deux Groupes Hiéroglyphiques," was published in 1856, and from this time M. Chabas was a constant contributor to the chief Societies, etc., which interested themselves in Egyptian matters, as, for instance, to the *Ægyptische Zeitschrift*, the *Revue Archéologique*, the *Mémoires de l'Acad. d. Inscriptions et de Belles Lettres*, to the *Mémoires de l'Acad. Roy. d'Amsterdam*, the *Transactions of the Society of Biblical Archæology*, the "Comptes rendus" of the several Oriental Congresses, etc., etc., till, in 1874 (his position as a master of Egyptological science having been by this time fully recognized), at the Oriental Congress in London, he was appointed a member of the International Committee for the publication of M. Naville's forthcoming "Variorum" Edition of "The Ritual."

M. Revillout gave but just expression to the general worth of M. Chabas's researches when he used the words, "Setting aside only Dr. Birch and M. de Rougé, all the Egyptologists in Europe were his pupils. There is literally not one of us, who has not made his first steps by the aid of M. Chabas; while the most illustrious, including those who, like Brugsch Pasha, have occasionally differed from him in matters of detail, openly acknowledge him as their teacher." Living in entire seclusion, in a provincial town of France, all he learned and all he achieved was by the aid of books, of facsimiles, and by his own untiring perseverance and genius. The following may be taken as a list of his principal papers or books. *Inscription historique du règne de Seti 1^{er}* (1856):—*Le Papyrus Magique d'Harris* (1861):—*Mélanges Egyptologiques* (1862-3):—*Recherches sur le nom Egyptien de Thèbes* (1863):—*Les Papyrus Hieratiques de Berlin* (1864):—*Revue*

rétrospective à propos de la publication de la liste Royale d'Abydos (1865):— Voyage d'un Egyptien en Syrie, en Phénicie, et en Palestine (1867):—Les Fouilleurs de Solutré (1875):—Traduction des Inscriptions de l'Obélisque de Luqsor (1868):—Hebræo-Ægyptiaca (1872):—Recherches pour servir à l'histoire de la xix^e Dynastie (1873):—Les Silex de Volgu (1874):—Sur l'usage des bâtons de main chez les Hébreux et dans l'Ancienne Egypte (1875)—and many more. M. Chabas at his death was a Corresponding Member of the Institute, Chevalier of the Legion-d'honneur, and ex-President of the Chamber and Tribunal of Commerce at Chalons-sur-Saône.

The Council having heard that Prof. Lepsius would, on April 21, attain the 50th year of his Doctorate, considered this occasion one on which congratulations ought to be addressed to him, in recognition of this auspicious event. The Secretary, having, therefore, drawn up a short letter for this purpose, the President, Director and Members of Council present at the Meeting of April 16, 1883, signed it, and it was despatched to Berlin immediately. The President has since received a letter from Prof. Lepsius, of which the following is a copy:—

“Sir,—The Royal Asiatic Society has done me the honour to send me its warm congratulations for the 50th anniversary of my Doctorship.

“Of my unabated interest in Asiatic Literature, a study that has of late gained so immensely in importance by numerous new discoveries, I have had in the latter years more than one opportunity of giving visible proofs. Yet my participation in your noble task has, after all, been much too slight to explain your having thought of me on the present occasion—a fact I must, therefore, attribute to a favourable consideration of my scientific endeavours in general, and to a kind desire of expressing it. I feel much flattered by this proof of the Society's feelings for me, and I venture to beg

you, Sir, and Mr. W. S. W. Vaux, to communicate my thanks to the members, especially to the distinguished men who have added their signatures to your letter.—I have the honour to be, Dear Sir, your obedient servant, RICHARD LEPSIUS.
To Sir Bartle Frere, G.C.B., Pres. of the Royal Asiat. Soc.”

It having also been understood to be the intention of Dr. Burnell’s executors to sell his library of both printed books and MSS. by public auction, at Messrs. Sotheby & Co.’s, an effort was made to secure the latter, and to keep them together in some one institution, where they could be readily consulted by students. With this view, the following letter was written by order of the Council, to the Under-Secretary of State for India in Council.

“Royal Asiat. Soc., 22, Albemarle Street, Feb. 26, 1883.

Sir,—I am directed by the Council of the Royal Asiatic Society to call the attention of the Under-Secretary of State for India in Council, to the fact that a fine collection of Oriental MSS., brought together by the energy of the late Dr. A. C. Burnell, of Madras, is now in the hands of Messrs. Sotheby & Co., for public auction, if not previously purchased *en bloc*.

“The collection, which consists of somewhat less than 200 MSS., has been quite recently examined by competent scholars, who have ascertained that it contains many works of the highest interest, as well as several individual MSS., not previously known in Europe.

“The Council of the Royal Asiatic Society, therefore, venture to hope that steps may be taken to secure this collection for the Library of the India Office, which was enriched, some years ago, by the gift from Dr. Burnell of another and valuable collection of MSS., chiefly Sanskrit, which he had procured during his residence in the South of India. The new MSS. would serve, appropriately, as a supplement to the former collection.

“The Council of the Royal Asiatic Society have been given to understand that the present time is particularly favourable for this contemplated purchase, as there happen to be no competitors in the market.—I am, sir, your obedient servant,

W. S. W. VAUX, Sec. Royal Asiat. Soc.
The Under-Secretary of State for India.”

It is with great pleasure that we are able to state this application has proved successful, and that the purchase of Dr. Burnell's MSS. for the Library at the India Office has been duly sanctioned.

The Auditors submit the accompanying account of the Receipts and Expenditure of the Society, which will, they hope, be considered satisfactory.

ABSTRACT OF RECEIPTS AND EXPENDITURE FOR THE YEAR 1882.

Dec. 31, 1882.	RECEIPTS.	EXPENDITURE.			Dec. 31, 1882.
		£	s.	d.	
Balance at Bankers', January 1, 1882	...	222	17	6	...
151 Resident Members	...	475	13	0	...
93 Non-Resident Members	...	97	13	0	...
Arrears paid up	...	15	15	0	...
Compositions—Four Residents (less £23 ss. 0d.)	...	122	17	0	...
—Four Non-Resident Members	...	42	0	0	...
Donation from Council for India	...	210	0	0	...
Dividend on Consols	...	22	7	11	...
Rents—
British Association (5 quarters)	...	146	5	0	...
University Extension	...	30	0	0	...
Royal Historical Society (2 quarters)	...	12	10	0	...
Hellenic Society	...	25	0	0	...
Sale of Journals	...	1	2	11½	...
Total Receipts	...	1424	1	4½	...
Balance in Treasurer's hands	...	2	13	4½	...
Rents
Water Rate
Fire Insurance
Income Tax
Salaries—Secretary
Errand Boy and Stewardson
Bedford (pension)
Allowances—Royal Asiatic Society
British Association (5 quarters)
University Extension Society
Journal—Tribner for Vol. XIV. Part 1
" " " " Part 2
" " " " Part 3
" " " " Part 4
Illustrations (Griggs and Austin)
Investment £124 ss. 11d. Consols at £101 2s. 6d.
Bankers Charges
Books purchased—Tribner, Williams & Norgate,
Quarto, etc.
Stationery and Advertisements
Bookbinding—Partridge & Co., etc., etc.
Postage and parcels
House Expenses
Repairs and Rebuilding
Total Expenditure
Balance at Bankers'
In Treasurer's hands
Examined and found correct,

 £1426 14 9

Amount of Society's Funds,
Three per cent. Consols £294 ss. 11d.

JAMES FERGUSON.
E. L. BRANDRETH.
JOHN DAVIES.

 £1426 14 9

Proceedings of Asiatic Societies.—Royal Asiatic Society.—Papers.—Since the last Anniversary of May 15, 1882, the following papers have been read at different meetings of the Society.

1. On the importance of the Study of Chinese Literature, with especial reference to the Chinese Library of the Society. By H. F. W. Holt, Esq. Read June 19, 1882.

2. On Buddhist Caves in Afghanistan, and on the identification of the sculptured tope at Sanchi. By W. Simpson, F.R.G.S. Read July 3, 1882.

3. On written and unwritten Chinese Law. By Christopher Gardner, M.R.A.S., Her Majesty's Consul, Ichang. Read July 3, 1882.

4. On Malagasy Place-Names. By the Rev. James Sibree, Jun., M.R.A.S. Read Nov. 20, 1882.

5. On Buddhism in Ceylon. By Arthur Lillie, M.R.A.S. Read Dec. 18, 1882.

6. By R. N. Cust, Esq., Hon. Sec. Royal Asiat. Soc. Abstracts of the following papers, viz.

(a) On the Northern Frontagers of China, Hia and Tangut. Part VI. By H. H. Howorth, F.S.A., M.R.A.S.

(b) On the Northern Frontagers of China. The Shato Turks. Part VII. By *ibid.*

(c) On the Early Kannada Authors. By Lewis Rice, Esq., M.R.A.S., Dir. of Public Instruction Bangalore. Read Jan. 22, 1883.

7. On the relations of the Languages of India and Africa. By Hyde Clarke, Esq., M.R.A.S. Read Feb. 19, 1883.

8. On gunpowder and fire arms among the ancient Hindus. By Prof. Gustav Oppert, M.R.A.S. Read Feb. 19, 1883.

9. Suggestions on the Voice-Formation of the Semitic Verb. By M. Bertin, M.R.A.S. Read March 19, 1883.

10. On two points of Japanese Archæology. By Basil

Hall Chamberlain, Esq., M.R.A.S. Read by M. Satow, April 16, 1883.

11. On two Geographical Sites named by Hiouen Tshang, in the 10th Chapter of the Si-yu-ki. By Prof. S. Beal, M.R.A.S., Read April 30, 1883.

12. On the Shifting of the Cardinal Points, as an illustration of the Chaldeo-Babylonian culture borrowed by the Early Chinese. By Terrien de Lacouperie, Esq., M.R.A.S. Read April 30, 1883.

Of these papers, as Nos. 2, 3, 4, have been already printed in the Society's Journal, it is not necessary to say more about them here. The following are brief notices of the others:—

Mr. Holt's paper "On the importance of the Study of Chinese Literature with especial reference to the Chinese Library of the Society," of which he has recently made a complete Catalogue, dealt chiefly with those classes of works most likely to be of interest to Western Scholars, and drew particular attention to the Dynastic Histories, Encyclopædias, and Notices of Art and Literature, many of these books being of considerable antiquity, and most of them in the Society's Library. In the course of his paper, Mr. Holt pointed out that there was evidence of a very early communication from near Martaban, along the valley of the Irrawaddy, to the N.W. capital of China, then at Si-ngan-foo or Honan-foo.

In his paper, "On Buddhism in Ceylon," Mr. Lillie combated the views held by a section of writers headed by Mr. Rhys Davids, viz. that the Ancient Books of Ceylon teach nothing as Buddhism, but annihilation, the non-existence of the soul, etc. In the course of this argument he cited "Tevigga Sutta," in which Buddha is questioned on the subject of that union with Brahma, which it was the object of the Brahman ascetic, in Buddha's day, to gain. Buddha, instead of answering that the Supreme Brahma is non-existent, and that those who sought union with him were unwise, proclaims distinctly

the contrary proposition. Mr. Lillie then urged that the charges of annihilation brought against Buddha by Mr. Rhys Davids were founded on an erroneous reading of the Buddhist ideas about Skarma and the Skandas. These, he stated, cease not at the death of the individual, but on his attaining spiritual awakening. A passage in the "Brahma Jala Sutta," much relied on by Mr. Rhys Davids, was then compared with its context, and it was shown that the annihilation of human beings is pronounced as heretical as the doctrine of future conscious existence. Mr. Lillie, in conclusion, expressed the opinion that the northern and the southern system ought to be carefully compared together, as, by these means only, can the archaic and true Buddhism be detected and separated from its later accretions.

With reference to the various papers by Mr. Howorth, abstracts of which he had read to the Society on Jan. 22, 1883, Mr. Cust pointed out that Mr. Howorth had, on previous occasions, contributed a series of papers to the Journal of the Society, in which he had passed under review the races that have dominated over Northern Asia and China from the earliest times, his method being the safe one, of proceeding from the latest and best known backwards to the more remote and the least known. He thus shows that, anterior to the great Mongol Conquest, which united a large part of Asia into one kingdom, there were five separate Dynasties: 1. The Kin or Golden Tartars; 2. The Kara Chitai; 3. The Sung Chinese Kingdom; 4. That of Hia; 5. The country of Tangut, on the Tibetan frontier of China; and thus traced the progress of these various populations till the whole are merged into the mighty conquest of Jinghiz Khan. Mr. Howorth has also contributed a separate Essay on the Shato Turks.

Mr. Lewis Rice's paper "On the early Kannada Authors," Mr. Cust said, was one which scholars will rejoice to see in print. It has long been known, he stated, that an

extensive old literature existed in the Kanarese language in connection with the Jaina religion, but we had no details thereof. Mr. Rice has availed himself of his opportunities to give a catalogue raisonnée which is interesting as showing the intellectual movements of the period, the religious views of the writers, and the variations which were traceable in the language and the written characters. It appears, that, in those days, Sanskrit (called Sakkada) was concurrently studied by all scholars, the most eminent of them priding themselves in being able to write either in Sakkada or in Kannada, their own Dravidian vernacular. Even in Inscriptions, Slokas appear, alternately, in Kannada and Sakkada, a suggestive fact in so far that it shows that, though the intrusive learned language (Sanskrit) was appreciated, the Vernacular was deemed worthy of cultivation for literary purposes.

Mr. Rice then points out that there are three distinct periods of the Kannada Language:—1. The Parvada or primitive old Kanarese (to the end of the 7th century). 2. The Kannada or Old Kanarese to the end of the 14th century. 3. The Kannada, or modern Kanarese. These dates are not to be taken, absolutely, as covering the whole Kanarese Language Field. There is, as might be expected, a correspondent change in the form of the written characters used. Mr. Rice describes the political circumstances of the country that led to the impulse given to the indigenous literature. He gives A.D. 240 as the earliest date of a treatise, which is remarkably early, no vernacular in Europe, and none, so far as I can judge in India, ascending to that era. Old Hindi cannot be traced beyond Chand. Mr. Rice then notices in detail all the works in chronological order, showing that, after A.D. 1300, the Jains no longer possessed a monopoly of Canarese Literature, Lingayit writers occupying the field till A.D. 1508, when Brahmanical works appear. Mr. Rice is deserving of high commendation for labours

which have thrown much new light into a hitherto dark corner.

Mr. Basil Hall Chamberlain's paper, "On two Questions of Japanese Archæology," is an original one, prepared on the spot, controverting certain views recently put forth by M. Léon de Rosny, but in consonance with those of the other English students in that country, who have occupied themselves with the archaic literature of Japan, and especially with those of M. Satow, who, in Mr. Chamberlain's absence, read his paper to the Society, on April 16, 1883. Mr. Chamberlain discusses the available evidence on two chief points. 1. The documentary sources of our knowledge of Archaic Japan. 2. The so-called Sacred Characters, which are said to have been used by the Japanese before the introduction of the Chinese Ideographic writing.

On this question the authentic literary sources are: 1. Histories, called Records of Ancient Matters and Chronicles of Japan, about A.D. 712-720. 2. A poem entitled "Collection of Myriad Leaves," dated about A.D. 756. 3. Rituals of the Shintu Worship, A.D. 927; the whole of which have been published, and are admitted to be genuine. The writer then enters at considerable length into his controversy with M. de Rosny. On the second question, Mr. Chamberlain maintains that the negative evidence, that is to say, the evidence tending to show that the Japanese did not originally possess a written system of their own, is much stronger than the evidence tending to show that they did possess it; M. de Rosny and others not being justified, in his opinion, in speaking of the so-called "Sacred" characters as an undisputed fact. He then goes into detail, showing that these characters are identical with the existing Korean alphabet, which is reasonably believed to have been based on an Indian original. If these facts are admitted, it is clear that M. de Rosny is on the horns of a dilemma not easy to escape from. It is impossible for those not acquainted with the subject to follow out to the full extent

Mr. Chamberlain's arguments, but no one can fail to admire the fair yet respectful tone of his writing, combined with the clenching style of his reasoning.

In Mr. Hyde Clarke's paper, "On the relations of the Languages of India and Africa," Mr. Clarke stated that, taking words from several series of Indian languages, he had compared them with those of Africa, giving, at the same time, a detailed comparison of the dialects of the Santali in India with the Haûsa of Africa. These relations of speech, he affirmed, had nothing to do with the relations of race, but were wholly due to some common source of culture. The invention of speech-languages he placed on the basis of sign languages, with a definite psychological system. Thus, he contended that, while all languages are of common origin, there was no one primeval language, as, in each language, words are found resembling those of other languages, without however necessarily contributing to their classification.

In M. Bertin's paper, entitled "Suggestions on the Voice-formations of the Semitic Verb," the writer endeavoured to prove, by a general survey of the affixes used in their various dialects to form the different voices (Aphal, Niphal, etc.), that these affixes are really remnants of primitive auxiliary verbs. A point on which he specially insisted was, that a great many, indeed most of the Triliteral Semitic "roots" are not primitives, but compounds of two or more elements: the reason why some voices are made by what appear at first sight to be infixes, whereas, really, the infixed letters are prefixed to the second element of the word.

By means of these two hypotheses, the writer attempted to explain the origin of the voice-formations or formatives, and the composite character of the verbal stems, and all the forms of the verb, in Assyrian, Hebrew, Aramæan, Arabic, and other Semitic dialects. He explained, also, the reduplication, which has been limited to the doubling of one letter only (paël), at the same time attributing the origin

of the passives, by vocalisation, to a primitive law of vocal harmony.

In Mr. Beal's paper "On two geographical sites mentioned by Hiouen-Thsang in the 10th Chapter of the Si-yu-ki," the mountain of Polaraka is identified with Sumanakala, or Adam's Peak in Ceylon, thus tracing the Buddhist worship of Avalokitesvara to the veneration of sailors and others for Samana, as a hill-god. Mr. Beal then showed that the Chinese name for Avalokitesvara, Kwan-shi-yin, is a form of the Sabæan divinity *Al-Makar*, "he who hears," the knowledge of him having been brought to Ceylon by the Sabæan merchants, who, as Fa-Hian states, had settled in great numbers, in the early centuries A.D.

The second site, Po-lo-mo-lo, is mentioned by Hiouen-Thsang, in the middle of the 10th Book of the Si-yu-ki, and is restored by Mr. Beal as Brahmara, "a black bee," one of the names of Durgâ, to which the hill Po-lo-mo-lo-ki-lu was dedicated. The Chinese rendering of this name has been written by mistake as "black peak." Mr. Beal further showed that this hill is the "Pigeon-rock" of Fa-Hian, but "Po-lo-yu" "Pigeon" ought to be restored to "Parvati," as the hill was dedicated to this goddess, who is the same as Durga.

M. de Lacouperie's paper "On the shifting of the Cardinal Points, as an indication of the Chaldæo-Babylonian culture borrowed by the early Chinese," briefly showed that early Chinese civilization is an indirect offshoot of the Babylonian culture, one proof being the shifting of the Cardinal points as shown by the similarity of the Chinese and Chaldæo-Babylonian signs, which has been lately confirmed by the decipherment of a Cuneiform Tablet, where this shifting is demonstrated. The main result of this shifting is to get rid of the 17000 years which it has been hitherto found necessary to add to Chinese Chronology so as to adjust the Chinese Zodiac. M. de Lacouperie insisted, also, on the peculiar affinity of the Akkadian numerals to the Chinese cycle of ten.

Journals.—*Royal Asiatic Society.*—Since the last Anniversary of May 15, 1882, Parts III. and IV. of Vol. XIV. and Parts I. and II. of Vol. XV. have been issued, containing the following papers :—

Thus, in Vol. XIV. Part III. are—The Vaishnava Religion, with special reference to the Sikshā-patrī of the Modern Sect called Svāmi-Nārāyana. By Monier Williams, C.I.E., D.C.L., Professor of Sanskrit and Fellow of Balliol College, Oxford, and Hon. M.R.A.S.

———— Further Note on the Apology of Al-Kindy. By Sir W. Muir, K.C.S.I., D.C.L., L.L.D., M.R.A.S.

———— The Buddhist Caves of Afghanistan. By W. Simpson, Esq., F.G.S.

———— The Identification of the Sculptured Tope at Sanchi. By W. Simpson, Esq., F.G.S.

———— On the Genealogy of Modern Numerals. By Sir E. Clive Bayley, K.C.S.I., C.I.E.

———— The Cuneiform Inscriptions of Van, deciphered and translated by the Rev. Prof. A. H. Sayce, M.R.A.S.

In Vol. XIV. Part IV. are—The continuation and completion of Prof. Sayce's paper.

———— Sanskrit Text of the Sikshā-patrī of the Svāmi-Nārāyana Sect. Edited and translated by Professor Monier Williams, C.I.E., D.C.L., M.R.A.S.

———— Successors of the Seljuks in Asia Minor. By Stanley Lane Poole, Esq., M.R.A.S.

———— The Oldest Book of the Chinese (the Yh-King) and its Authors. Part I. By Terrien de Lacouperie, Esq., M.R.A.S.

In Vol. XV. Part I. are papers—On the Genealogy of Modern Numerals, Part II. Simplification of the Ancient Indian Numeration. By Sir E. Clive Bayley, K.C.S.I., C.I.E., M.R.A.S.

———— Parthian and Indo-Sassanian Coins. By Edward Thomas, Esq., F.R.S., Treas.R.A.S.

————— On the Early Historical Relations between Phrygia and Cappadocia. By W. M. Ramsay, Esq., M.R.A.S., and Fellow of Exeter Coll. Oxford.

In Vol. XV. Part II. are—The Tattva-muktâvali of Gauda-pûrnânanda-chakravartin. Edited and translated by Prof. E. B. Cowell, M.R.A.S.

————— On two modern Sanskrit slokas. Communicated by Prof. E. B. Cowell, M.R.A.S.

————— On Malagasy Place-Names. By the Rev. James Sibree, Jun., M.R.A.S.

————— The Namakkâra, with translation and commentary. By H. L. St. Barbe, Esq., B.C.S., M.R.A.S.

————— Chinese Laws and Customs. By Christopher Gardner, Esq., H.B.M., Consul, Ichang, M.R.A.S.

————— On the Oldest Book of the Chinese (the Yh-King and its Authors (continued from Part I.). By Terrien de Lacouperie, Esq., M.R.A.S.

————— Gleanings from the Arabic. By H. W. Freeland, Esq., M.A., M.R.A.S.

The Journal of the Asiatic Society of Bengal has well kept up its character of former years. The individual papers, however, are not so numerous as usual. Among these may be mentioned, in vol. li. pt. 1, No. 1, Contributions on the Religion, History, etc., of Tibet, by Baboo Sarat Chandra Das, continued from vol. l. p. 251, in which the writer deals with the rise and progress of Buddhism in Tibet, his work being a literal translation of the first part of the Second Book of Dub-thah Selkyi Melôn. It appears from this memoir that the Buddhism of Tibet may be divided into two main periods: 1. Nadar or Earlier Buddhism; and 2. Chhyidar or Later Buddhism—a brief and interesting sketch of each of these periods being given by the writer. Mr. Sarat Chandra Das adds, also, lives of the Panchken-Rinpochkes or Tasi Lamas, the thirteen titles of which it is not necessary to reproduce

here:—as well as the names of the important stages of Taśi Paldan Yese Lama's Journey from Taśi Lhunpo to Pekin, A.D. 1770:—and the Life and Legend of Tsôn Khapa (Lo-ssân-Tagpa), the great Buddhist Reformer of Tibet. Mr. Sarat Chandra Das gives, also, the Tibetan Text of the eleventh Book of Dub-thah-Selkyi Melôn, with a Translation into English. This paper is illustrated by twelve plates on stone, which can hardly be said to be of value, as the drawing is bad, and the lithographic work of the poorest. To the indefatigable Major Raverty we owe an excellent paper, "On the Author of the Tabakat-i-Nasiri." In vol. li. part i. No. 2, is a further continuation of Mr. Sarat Chandra Das's paper entitled "Contributions on the Religion, History, etc., of Tibet," in which he treats of the "Rise and Progress of Jîn or Buddhism in China"; of "Buddhism introduced from Tibet"; of the "Five Chinese Buddhist Schools"; of "Ancient China, its Sacred Literature, Philosophy, and Religion, as known to the Tibetans"; and of "The different Buddhist Schools of Tibet."

Mr. Grierson, to whose labours on "Maithili" attention has been previously called, contributes a paper on "Manbodh's Haribans," a poem in the Maithili Dialect of the Bihari Language, the chief importance of which is that it is an example of the Maithili of the last century, and thus affords a connecting link between the old Maithili of Vidyapali and the modern Maithili of Harkh'náth and other writers of the present day. As a poem it corresponds roughly with the first half of the Tenth Book of the Bhagavata, or with chapters 57 to 93 of the Harivamśa. Of this poem Mr. Grierson gives for the present the Sanskrit text only.

In vol. li. pts. 3 and 4, are papers by Lieut. R. C. Temple on "Some Hindu folk-songs from the Panjáb," showing, as so often before, this writer's ready instinct in his record of the fleeting tales and legends of the day, combined with a singularly minute and accurate scholarship. The songs and

catches thus recorded may not interest many readers; but the grammatical details of the varying dialects from which Mr. Temple has written them down will have an abiding value, long after the songs themselves may have been forgotten. Some of these songs have been already printed by the collector in the *Calcutta Review* of the year 1882, treated, he says, "from a sociological point of view," whatever this may mean. Here, he views them from a point of view more generally interesting "as specimens of language."

Mr. P. N. Bose contributes a paper entitled "Note on some earthen pots found in the alluvium at Mahesvara (Mahesar)," which being clearly of an archæological character is noticed under Archæology.

In vol. lii. part 1, No. 1, is a long and very able paper by Mr. Hugh Fraser, "On Folk-lore from Eastern Gorakhpur (N.W.P.)," the text of which was originally communicated in a Romanized version, but has been since revised and transcribed into Nāgari by Mr. G. A. Grierson, and some of the Bihari Pandits. Mr. Grierson has contributed to it valuable notes on certain dialectic peculiarities, noticeable in the songs. Other papers of value have been printed in this number of the Journal—as by Surgeon-Major G. Bidie, "On Pagoda or Varaha Coins of Southern India":—by C. J. Rodgers, "Coins supplementary to Thomas's Chronicles of the Pathan Kings of Dehli":—by Major-General A. Cunningham, C.S.I., C.I.E., "On Relics from Ancient Persia, in gold, silver, and copper":—and Rajendralala Mitra, LL.D., C.I.E. "Note on a Sanskrit Inscription from the Lalitpur District."

It should be added that the Society has also issued as an extra number Mr. Grierson's "Introduction to the Maithili Language of North Bihar, part ii. Chrestomathy and Vocabulary."

In the year's "Proceedings" are a number of shorter notices

which we have only space here to refer to. Moreover, some of the more important of these are promised for future numbers of the Journal. Thus, we may call attention to an excellent notice by Messrs. Rivett-Carnac and Cockburn, On stone implements, etc., from the Banda district of the N.W.P. :—to Mr. C. H. Lepper's Notes on the Singpho and Kampti country on the N.E. Frontier :—to Mr. Cockburn's paper, On Buddhist Sculptures with reference to the handling of celts and other weapons :—to a notice by Dr. Hoernle of a birch bark MS. from Bakhshālī :—to an interesting account by Lieut.-General J. T. Walker, Surveyor-General of India, of the return of the explorers from Tibet :—and to a report of recent excavations under the remains of the Old Fort William at Calcutta, showing, as these do, the probable site of the Black Hole.

Madras Journal of Literature and Science.—In this Journal for the year 1881, under the editing of Dr. Gustav Oppert, Professor of Sanskrit, Presidency College, Madras, are papers by Dr. Oppert, On the Nītiprakāśikā or “Expounder of Probity”;—and by the same, on two Telugu Inscriptions from Raichore, together with some others;—by J. Shaw, “On the Predecessors of the High Court of Madras”;—by the Rev. E. Sell, “On Ilm-i-Tajwīd, or The Art of Reading the Qurān”; and a list of Saura words, originally collected by W. F. Grahame, Esq., but finally drawn up by G. Oppert. Of these papers, the first by Dr. Oppert is clearly the most important, if his argument, that the Nītiprakāśikā belongs to the same class of works as the Mahabharata and the Harivamsa, be well founded. Dr. Oppert strenuously maintains that the Nītiprakāśikā has not been previously published. The paper by Mr. Shaw is a continuation of one by him in the Journal of the previous year, and brings down the history of the “Predecessors of the High Court of Madras” from 1726 to 1862. The paper is one of considerable historical value, but is necessarily of more interest to those who reside

in or are acquainted with Madras than to the public generally. —The Rev. Mr. Sell's is an elaborate account of the rules to be observed in reading the Koran correctly, including a notice of peculiarities of spelling of many words in it, of its various readings, and of the Takbîrs or responses to be said at the close of certain appointed passages, together with its punctuation, the proper pronunciation of the Arabic words, and the correct intonation of different passages. He adds a notice of Sunnat practices in reading the Koran, and points out that care is to be taken that this reading be according to the pronunciation of the seven famous Quâris (or Readers) whose names he gives. In copying the Koran, the rules of the Rasm-ul-Khat must be strictly followed, and the copyist is bound to adhere to the recension made in the time of the Khalif Othman, the rule being based on the Ijma (unanimous consent) of the "Companions."

The Ceylon Journal, vol. vii. part ii., after a long delay, which, we understand, has been unavoidable, has at length appeared, and contains many articles of considerable interest and research. The following is a list of them:—Nevill, H., Ancient Emporium of Kalat, etc., with notes on Fa-Hian's Account of Ceylon;—L. Nell, the Sinhalese observance of the Kalâwa;—L. De Zoysa Mahâ Mudaliyar, Note on the origin of the Veddas, with specimens of their songs and charms;—L. Nell, A Huniyam Image;—A. T. Shams-ud-din, Notes on the Mirâ Kantiri Festival of the Muhammedans; I. L. Vanderstraaten, M.D., Sericulture in Ceylon;—and, by Jayatilaka S. Mudaliyar, Sinhalese Omens.

Journal of the Straits Branch of the Royal Asiatic Society.—In part ix. of the Journal of this Society, published in June, 1882, at Singapore, are a number of articles of much interest and value, of which the following is a list:—W. E. Maxwell, M.R.A.S., Journey on foot to the Patani Frontier;—Do., On

the Transliteration of Malay in the Roman character ;—Do., History of Perak from Native Sources ;—J. Dodd, Probable origin of the Hill Tribes of Formosa ;—W. Cameron, Kota Glanggi or Klanggi Pahang, with some brief notes on Natural History by Capt. Kilham, and Mr. N. B. Dennys, M.R.A.S., which are foreign to the objects of this Report. It should, however, be stated that, with this Number of the Journal, Mr. N. B. Dennys has forwarded to this Society four very beautifully executed drawings of a Python's Egg, a Flying Lizard, a Singapore Lobster, and of a Flowering Banana.

In No. 10, are the following papers :—Journal of a trip from Sarawak to Meri, by N. Denison, Esq. ;—The Mentra Traditions, by the Hon. D. F. A. Hervey ;—Probable Origin of the Hill Tribes of Formosa (continued from No. 9), by John Dodd, Esq. ;—Sea Dyak Religion, by the Rev. J. Perham ;—and Outline History of the British Connection with Malaya, by the Hon. A. M. Skinner. The last two papers are very interesting.

Journal Asiatique.—The following parts have appeared since the last Report of the Society—No. 3, Avril-Mai-Juin, 1882, wherein are the following papers :—By M. Sauvaire, Numismatique et Métrologie Musulmanes (continuation of former paper) :—M. Léon Feer, Études Bouddhiques—Mésaventures des Arhats :—MM. J. and H. Derenbourg, Études sur l'Épigraphie du Yemen :—M. Senart, Étude sur les Inscriptions de Piyadasi, Deuxième partie :—J. Halévy, Les Inscriptions du Safa—concluding article, The Language. In the "Nouvelles et Mélanges" are some interesting papers or notes by MM. Guyard, Eisenlohr, Brosselard, Imhault Huart, and Duval.

Vol. xx. part 1, Juillet, 1882, contains M. Rénan's Annual Report, and List of the Members of the Society. In part 2, Aout-Sept., M. Sénart continues his Étude sur les Inscriptions de Piyadasi :—M. Bergaigne publishes the general report of

the Committee (MM. Barth, Bergaigne, and Sénart) on M. Aymonier's "Sanskrit Inscriptions from Cambodia":—M. Barth gives his interpretation of them in an article entitled "Sur les Inscriptions Sanskrites du Camboge":—and M. Aimaud, "Une Inscription non-Sémitique de Hammourabi." In the *Mélanges*, etc., are many interesting brief reviews, notes, etc., by MM. Léon Feer, Siouffi, Halévy, E. J. de Dillon, and the Editor.

[Part 3, Oct.-Nov.-Dec., has for some reason not yet been published.]

In the *VIIIth Series*, No. 1, Janvier, 1883, are papers by M. G. Maspero, "Les Chants d'Amor du Papyrus de Turin et du Papyrus Harris, No. 500;" and by M. Clément Huart, "Notes sur quelques Expressions du Dialecte Arabe de Damas." In the "*Mélanges*," etc., are, as usual, useful notes, etc., by MM. J. Oppert, Bergaigne, Halévy, Devic, and the Editor.

German Oriental Society.—Since the last Report, vol. xxxvi. parts 2, 3, and 4, and vol. xxxvii. part 1, have been published, and contain a large number of valuable articles—by MM. Roth, Aufrecht, De Goeje, Wieseler, Goldziher, Socin, Dozy, Ethé, Spiegel, D. H. Müller, Bühler, Gildemeister, Noldeke, and others. Some of these will be noticed hereafter under their appropriate heads.

Archæology.—Major-General Cunningham has issued two more vols. of his "Archæological Survey of India"—vols. xiii. and xiv.—in the first of which he gives Mr. J. D. Beglar's Report of Tours in the South-Eastern Provinces in 1874-5 and 1875-6; and, in the second, a Report of a Tour by himself in "The Punjab in 1878-9," both of these vols. being illustrated by a large number of plates, plans, and maps, some of considerable interest, though it must be admitted that the lithographic art of the Surveyor-General's Office in

Calcutta is more rude than beautiful, though, generally, sufficiently good to tell its story. In the first of these volumes Mr. Beglar has dealt with comparatively speaking little explored places in the S.E. Provinces lying between Chattisgarh and Katak, with many interesting notices of places in Riwa, in the Central Provinces in the West, and in Orissa in the East. Some of these were previously quite unknown, as, for instance, Chandrehi on the Son river in Riwa, Turturia in the Central Provinces, and Ranipur-Insul in the State of Karund. At the last-named place is a very fine example of an Indian hypæthral temple. The most ancient of the sites visited by Mr. Beglar are those of Khandagiri, Udayagiri, and Dhauli, the last well known for the rock inscriptions of Asoka. The uninscribed Caves of Mara, also visited in this tour, are chiefly interesting from their great extent. Of much later date are the fine Brahmanical Temples of Chandrehi and Turturia, showing, as they do, that, when they were built, the arts and architecture of the Central Provinces were quite on a par with those of any other part of India. The temples at Markandi, on the Wen-Ganga river, and of Boran Deo, in the Kawarda State of Chhattisgarh, bear witness to the same fact. From these data General Cunningham concludes that the whole of this part of the country must, at that time, have belonged to the Kalachari Rajas of Chedi, and not, as had been previously supposed, to the aboriginal Gonds.

In the second of these volumes, vol. xiv., General Cunningham states that the chief object of his tour in the Panjab 1878-9 was to visit "the rather out-of-the-way places, which had not been previously visited." With this view, he examined all the sites to the South of Mânikyâla, proceeding thence to Shah-Dheri, the ancient Taxila, and, through the hills by Châsa or Fatehjang to Kâlabagh, on the Indus; surveying on the way the hill Fort of Mari, now Kâfirkot. Further on, he visited the site of Rokri, where the encroachments of the Indus had laid bare the remains of an old Stûpa, with numerous

Buddhist figures and heads in stucco. Thence, he passed to the ancient sites of Bhera and Vijhi, on the Jhelum, and of Sohdera on the Chinab, and, proceeding viâ Siâlkot and Parsarur, explored the group of old mounds on the Bâgh-bacha river. From Lahore, he visited the lofty mound of China, the Chinapati of Hiouen-Tsang, which Kanishka made the winter residence of the Chinese hostages. Thence, crossing the Biâs river, the old sites of Sultânpur, Nakodar, and Nurmahal in the Jalandar Doab, together with the yet more ancient sites of Junit and Janer, to the East of the Sutledge, were duly examined. The old city of Sadhora, to the East of Ambala, and the famous place of pilgrimage, named Kâpalmochan, came next under review; General Cunningham discovering, South of this last place, the site of Topra, or Tobra, whence Firuz Shah removed the stone pillar of Asoka, now preserved at Dehli.

General Cunningham's tour ended with a visit to Thâneswar, where he explored in detail the sites of the chief places on the great battle-field of Kurukshetra. Many of these places are connected traditionally with the eighteen days' fight between the Pandus and Kaurus, with which almost every Hindu is familiar. Indeed, the whole of the country round about Thâneswar abounds with names famous in early Hindu History, and referring more or less directly to the legends preserved in the Mahabharata.

The Inscriptions and Coins recorded by General Cunningham in these two volumes will be noticed later on under their respective heads.

But by far the most important book of the year is Mr. Burgess's Report on the Buddhist Cave Temples and their Inscriptions, and on the Elura Cave Temples, in two volumes, which has been published during the last few days. These two beautiful volumes comprise the results of Mr. Burgess's Archæological Survey of Western India, during the "Season-operations" of 1876-1880, and are, prac-

tically, supplementary to the volume on the "Cave Temples of India," edited by Messrs. Fergusson and Burgess, in 1880, and indeed to Mr. Ferguson's original work (1845) "On the Rock-Cut Temples of India." The chief object of them has been to add much additional material in illustration of Buddhist Cave Architecture, which could not be comprised within the limits of the preceding work. With this view, engravings (with the woodcuts, more than 80 in number) accompanied with descriptions more or less full, have been given of fourteen groups of caves, including Bhaja, Kondane, Pitalkhora, Kuda, Junnar, Nasik, Ajanta, Kanheri, etc., with good notices of the inscriptions discovered in them, and a useful Sheet of Alphabets, dating from the earliest of Asoka at Girnar, B.C. 250, to about A.D. 800. The second volume has been devoted to a more special description of the Elura caves, and of the Brahmanical and Jaina caves of Western India. These three volumes, therefore, taken together, very fairly illustrate the Cave Temples of Western India, so far at least as the Archæological Survey of the Bombay Presidency is at present concerned, and though, in no sense, exhausting the subject, they may be considered as giving a fair presentation of it. The inscriptions in the Kanheri caves (which more strictly belong to the preceding volume) have been carefully edited by Dr. Bühler, his well-known scholarship affording ample warranty for the accuracy of their translations. It is hoped that it may be possible to publish two future volumes, one to contain the Mediæval temples of the Canarese districts of the Bombay Presidency; the other, the Architectural remains in Gujarat and other districts in the Northern part of the Presidency.

Mr. Burgess, the account of whose researches at Amravati, had not reached us in time for the Report of 1882, has now published in full the result of his labours, with the title "Archæological Survey of Southern India—No. 3, The Amrāvātī Stūpa, Madras, 1882," with a folding plate of

the state of the ruins, taken from a survey made in March, 1880; and seventeen smaller plates, giving various details of the sculptures, etc. In this paper, Mr. Burgess gives a good summary of what has been done since Mr. Sewell began work at the Tope in May, 1871, not omitting the needless injury done to it, by the ill-advised visit to it of the then Governor of Madras, in January, 1880, owing chiefly, no doubt, to the carelessness, or ignorance, of the people subsequently left in charge of it. Mr. Burgess adds, that "the recent excavations have converted the site of the Tope into a large pit, roughly circular, and about 75 yards in diameter, but with extensions outside the circumference at the four cardinal points which render the area somewhat like a square with very irregular sides. The removal of all the central portion of the *débris* of the Tope for ever destroys the possibility of getting any idea of its size or structural arrangements. The stones were numbered from the south round by the west and north, but many of them have been omitted from this enumeration, for what reason is hard to say." Mr. Burgess then gives a detailed account of all the stones (about 360 in number) he met with, inscribed or uninscribed, with transcripts of their inscriptions, where legible, which was often not the case, together with a notice of the stones excavated by Mr. Sewell, and of others removed, for the sake of preservation, from Masulipatam to Bezwada. He adds some translations of the Inscriptions, furnished to him by Dr. Hultzsch of Vienna, together with a brief account of his own excavations in the Jaggayyapêta Stûpa (first discovered by Mr. Sewell), to which some allusion was made in last year's Report.

The Government of Madras has recently printed an important work, drawn up by Mr. Robert Sewell, with the title "Archæological Survey of Southern India—Lists of the Antiquarian Remains in the Presidency of Madras," vol. i. Mr. Sewell had previously issued "Chronological Tables for

Southern India from the sixth century A.D." (Madras, 1881), a paper the value of which (for chronological purposes) has been disputed by some competent scholars.

In his present volume, Mr. Sewell states that his object has been "not only to produce lists of antiquities in each district for the use of the Archæological Surveyor, but to furnish general information for the guidance of the many residents in Southern India, who might be, as yet, uninterested in the subject, with the view of enabling them, if their tastes so lead them, to join in the work of historical research." With this purpose, Mr. Sewell has given a brief account of all he has been able to discover himself, or to find elsewhere recorded in each taluk or sub-province, into which the Presidency is at present divided (with especial reference to the inscriptions existing or known to have existed there), viz. Ganjam, Vizagapatam, Godaveri, Kistna, Karnool, Bellary, Anantapur, Cuddapah, Nellore, Arcot, etc., in all twenty-one, with the native states of Cochin and Travancore. Mr. Sewell has added a Table of Transliteration for the Devanagari, Grantha, Malayâlam, Telugu, Canarese, Tamil, and English Alphabets; with Appendices on the Antiquities of the Palnâd Taluk of the Kistna District, on the dates assigned to the South Indian Temples, etc., from the works of Messrs. Fergusson and Burgess, and (what will certainly prove very useful) a complete list of the villages referred to in his Report. Such a work cannot be considered, nor does the writer consider it, as complete; but it is a good and sound beginning, and, as such, will form an excellent basis for further research. With Mr. Sewell's work in his hand, each or any District Collector, who will, can supplement it largely by his own local knowledge, and this, especially, in matters of detail which it was impossible for Mr. Sewell to obtain, during the brief period during which he has been in charge of this Archæological work.

The Bombay Government Central Press has also issued a valuable work by Mr. J. F. Fleet, "The Dynasties of the

Kanarese Districts from the earliest historical Times to the Muhammadan Conquest A.D. 1318," which have been chiefly compiled from the inscriptions which abound in Western India. The first systematic attempt to collect these inscriptions was made by Sir Walter Elliot, K.C.S.I., F.R.S., M.R.A.S., by the compilation of no less than 595 Canarese and old Sanskrit stone tablet inscriptions from the Canarese country alone, together with a large number of others in Telugu.

The *Indian Antiquary* has continued its useful labours during the last year, but there is, perhaps, less of strictly Antiquarian research in it (always excepting the numerous papers by Mr. Fleet and others on inscriptions) than in former years. There seems a tendency to admit, as noticed last year, a number of papers, such as those on Folklore, etc., which necessarily appeal to a limited and special class of students. We may, however (in the June Number), mention a visit to Paṇḍharpûr by Dr. J. Murray Mitchell, a supplementary paper to one on Tukârâm in a former number of the *Antiquary*, with an interesting account of a sacred festival held on the spot twice a year; and the suggestion (probably a just one) that Paṇḍharpûr was most likely, of old, a gathering place of the Buddhists, which has been usurped and gradually Hinduized. Mr. Burgess has contributed (August) a valuable paper on Supârâ, Surparaka, *Ζουπάρα*, which he identifies with the village of Supârâ, a determination of value as forming a firm basis for other and subsequent identifications.

Mr. Burgess gives also a reply to a paper on the same subject by Pandit Bhagvanlal Indraji, originally published in the *Journal of the Bombay Asiatic Society*, but since reprinted—a valuable criticism of the whole subject. Capt. R. C. Temple gives, also, a paper of some interest (though it is not strictly Archæological), entitled "LAMIA or ΛΑΜΙΑ" (August), in which he shows that this name or title does not belong to India only, but is the property of the whole of Europe. In

fact it would seem to be a survival from the earliest Aryan Mythology.

Dr. Klatt, of Berlin, contributes a useful paper (September), being "Extracts from the historical records of the Jainas," with the chief dates in the Pattāvalis of the two chief sects of the Jainas, the Kharatara, and the Tapa-gaetta. Capt. Temple writes on Sarika-Maina, *Κερκλον*, the name of a talking bird, common now, as in the days of Ælian, in the N.W. Provinces and Panjab:—Dr. Thibaut (November) has given an useful paper "On General Cunningham's new method of fixing the initial point of the Gupta Era," the chief point being the ascertainment, so far as is practicable, of the chronological or astronomical system, the authors of the Inscriptions on the Copper Plates, etc., generally made use of. The Rev. J. D. Bate contributes an interesting account of the "Oracle of Hubal," one of the idols of the pre-Islamic period of Arabian history, a huge image made of red granite, in the shape of an old man with a long heavy beard, which a certain Amrû, King of Hijâz, placed near or on the top of the Kaaba, so that he became the presiding God in the temple, and the principal Deity of the Quraishites. Hubal was closely connected with the old Arabian system of divination by arrows.

To the veteran Archæologist, Sir Walter Elliot, we owe a brief paper (with a plate, February), "On a Buddhist Tope in the Pittapur Zamindari," where, in the course of some excavations (in 1848), the workmen discovered five stone vessels with covers of the same material, each containing a small crystal box or casket, within which were splinters of precious stones, a small pearl, a bit of coral, and a piece of gold leaf. These objects are now in the Central Museum of the Madras Government, and are evident proofs of the hold taken by the Buddhist Faith in the Doab of the Krishna and Godavari.

The Rev. Joseph Edkins, in a paper "On the Earnestness of Chinese Buddhism" (April), has given an account, from personal examination, of the cuttings on stone at a hill called

Siau-si-tien, near Peking, of the Buddhist Sacred Books, a work which can hardly be called anything else but marvellous. On this hill are eight caves, in which the stone tablets, bearing the Buddhist books, are piled up. Many of these caves are closed with strong stone gratings, through which, however, the inscribed tablets can be seen. At length the visitor arrives at an open cave, around the four sides of which are fixed on its walls the limestone tablets with their inscriptions. Each tablet has 988 characters, and, as there are 150 of these, the total number of characters amounts to 148,200 in all. Four octagon pagodas support the roof, and more than 1000 images of Buddha are placed in small niches, in sixteen rows, upon the surface of these pagodas, the rows reaching from the floor to the ceiling.

The history of these remarkable works is as follows :—About A.D. 1030 (under the Liao Dynasty) the caves were opened and a careful register made of the Tablets, which were found to be in all, 1560 in number. From the dates and names, it appears that about A.D. 620 (in the Sin Dynasty) a priest named Tsing-wan-tsing commenced the work of inscription, and toiled at it till his death in A.D. 639. Other monks succeeded him in this labour for 130 to 150 years ; but, after this, there was a pause in the work for some centuries. As stated, about A.D. 1030, the labours of the then forgotten monks were discovered, and the admiration of them was so great, that it was resolved to complete the unfinished work from the public funds. New Tablets were cut, to the number of 360, and in A.D. 1058, an inscription was set up to commemorate their completion, giving these details. Dr. Edkins adds, “To give a more definite idea of the work done, it may be mentioned that the cave we saw contained 150 tablets, which were large enough to admit of the New Testament being twice written upon them, in characters of the same size and of the book-language version. But there are, in all, 2730 tablets enclosed in

these seven caves. Of these, 2130 were cut by the five priests working alone in succession for more than a century, without public money, and the amount they completed would be equivalent to about thirty New Testaments." The favourite books of the Northern Buddhists are those of the Mahayana or Great Development. It was for these that Hiouen-Tsang had an attachment, and it was of these that he brought a large supply from India, about A.D. 646, when these tablets were being cut. It is these that are engraved on these Tablets, and that here continued to be favourites with the Buddhists of China. Hiouen-Tsang and the Priest-carvers may be compared together. The one desired to add to the Buddhist books, the other to preserve them from all danger of destruction. The one was recognized by the Court and the Nation as a hero; the others toiled on a mountain, at a long distance from the capital, which was then in North-Western China, at the southern end of Shansi.

In the *Antiquary* for May, 1883, is a paper by Pandit Bhagvanlal Indrajī, on an inscription referring to a hitherto unknown Yādava Dynasty—whose dominion at one time extended over the present Nāsika *sillas*. The inscription is on a copper plate, the preservation of which is due to our member, the Hon. J. Gibbs, C.S.I., of the Council of Bengal. The discovery and interpretation of this inscription shows well how much valuable mediæval history may be made out satisfactorily by the collection of the copper grants of the frontier rulers, many of whom, at present, quite unknown to us.

Mr. Howorth adds his xxth paper "On Chingiz Khan and his Ancestors," which has this much antiquarian interest that there is in it a notice by Timkofski of the famous Wall of China.

Besides the papers, above referred to, are many of much interest by other writers, such as Capt. R. C. Temple, Prof. Forchhammer, H. C. Bell, Dr. F. Müller, E. W. West, E. Hultzsch, Prof. Bühler, Prof. W. D. Whitney, W. W.

Rockhill, E. Thomas, Lewis Rice, and others, some of which will be noticed elsewhere under their appropriate heads.

In the same periodical are some good notices or reviews (not, indeed, all antiquarian), of which the following may be mentioned here. Thus, of M. Barth's *Religions of India*, a work of considerable research, but remarkable for the writer's denial of the antiquity of the Vedas:—of Mr. Robert Sewell's *Chronological Tables for Southern India*:—of Dr. K. T. Holle's *Tabel van oud- en nieuw-Indische Alphabetten*, a valuable book, suggested, as already stated, by the late Dr. Burnell's work:—of the late Rev. E. M. Wherry's *Comprehensive Commentary on the Quran*:—and of Dr. W. Geiger's "*Ost-Iranische Kultur im Alterthum*." M. Geiger's work is illustrated by an excellent map. It may be noted that this writer derives the name of Mount Elburz from "*Haraberezaiti*," meaning "lofty mountain."

In the *Journal of the Bengal Asiatic Society*, vol. lii. part i. No. 1, Major-General Cunningham gives a further account of the "Relics from Ancient Persia, in Gold, Silver, and Copper" (see *anté* J. B. A. S., vol. i. part 1, 1851), which were found on the banks of the Oxus, about two marches from Kunduz. The place is one of the most frequented ferries on the Oxus, and has always been the chief thoroughfare on the road to Samarkand. The objects, recently discovered, are a gold circlet, $4\frac{3}{4}$ inches each way, with two winged and horned gryphons at the end, worth, intrinsically, from 600 to 700 rupees (it has been described in the *Illustrated London News* by Sir George Birdwood), and belongs now to Major Burton:—a small figure in solid gold, weighing about 518 grains, representing a Magus in full costume, which, with one previously shown in vol. i. plate 14, confirms the accuracy of Strabo's description of the Magus:—a gold seal, with deeply cut symbols:—a thin gold ring, representing a lion couchant:—a circular boss, $3\frac{3}{4}$ inches in diameter, weighing 851 grains, and ornamented with a hunting scene of three

horsemen, one of them pursuing two stags, at which he is preparing to hurl a spear. General Cunningham conjectures that this object was the boss of a shield. Besides these, were three gold bracelets, weighing, respectively, 1310, 3555, and 3600 grains, terminating in antelopes' heads, and two lions' heads from similar bracelets. From the coins found, he concludes that the deposit was made not later than B.C. 200 or 180.

In vol. li. Nos. 3 and 4 (1882), is a brief paper by P. N. Bose, On some Earthen Pots found in the Alluvium at Mahesvara (Mahesar), showing clearly the site of an ancient city (perhaps the Mohishifalopulo of Hiouen-Tsang) on the banks of the Narmadá, many traces of which can be seen from the river. At this spot there would seem to have been extensive pottery works, enclosing several round wells. The vessels found are not unlike those described by Major Mockler in Proc. As. Soc. Beng. for July, 1877, and may have been dedicated for some funereal feast, as suggested by him.

In the *Journal Asiatique*, vol. xx. (Aug.-Sept.), are two papers, essentially antiquarian, On the Sanskrit Inscriptions from Cambodge, procured by Captain Aumonier. The first is a general report from M. Bergaigne, who, with MM. Barth and Sénart, had been appointed the Committee for their examination. In this report he gives details as to which inscriptions were taken up by the three examiners, separately, for study; with a brief notice of the places where each of them was discovered. Of these inscriptions probably the most important is one found at Ang-Chamnik in the Southern part of Cambodge, on the left bank of the Mekong, as it bears a date, 589—almost certainly of the Saka era. It records the erection of a Siva linga by the Governor of Adhyapura (whose ancestors had been for three generations Royal Ministers) for King Jayavarman. This inscription remarkably confirms the accuracy of the date of A.D. 600 assigned by

Dr. Kern to another inscription from Hanchey. Saka 589 corresponds with A.D. 667, the 67 years being sufficiently near to represent the three generations. M. Bergaigne gives the names of four kings, who may or may not have reigned actually in succession to one another, before Saka 589=A.D. 667, and, from the evidence before him, draws the general conclusion, that A.D. 825 is the oldest date to which we can carry up the buildings of the great edifices at Angkor. If this be so, we obtain an important date for the history of art in Cambodge.

The characters used are those of the most ancient inscriptions, on stone, in the Dekkan, and agree, essentially, with those of the first Chalukkyas, from the 6th to the 8th century, engraved on the walls of the Temples at Badami, Aihole, and Patṭadakal. The work of the lapicide has been most careful, and the orthography is, therefore, correct. The second paper gives M. Barth's readings and translations of the inscriptions, of which M. Bergaigne has provided the general history.

Before the Académie des Inscriptions, M. Ganneau has described a curious female figurine in bronze, perfectly naked, with a diadem in the form of a crescent, and her left arm extended towards what may, perhaps, have represented the rudder of a ship, bearing an inscription in ordinary Phœnician, **לצדנים**, "To the Sidonians." There can be no doubt that the figure is that of the Astarte of the Sidonians. In a later paper, the same scholar gives an interesting resumé of his archæological researches in Syria and Palestine, with a notice of his discovery, at Gezer, of carved stones, marked with the Hebrew word for "boundary": he thinks that these may very possibly indicate the limit of the Sabbath-day's journey.

M. Dieulafoy has given a valuable report of the results of his "Mission Archéologique" to Persia, the chief object of which was to study the existing remains of the Achæmenid and Sassanian Dynasties, and, especially, of the monuments in

the plain to the N. of Persepolis, at Meshed Muzzab (Murghâb), and Mader-i-Suleiman. M. Dieulafoy considers that the Takht-Mader-i-Suleiman—the unfinished remains of a structure of vast squared stones (not unlike those at Segesta or Selinus)—was originally commenced by Cyrus, and intended for his capital. Hence, naturally, the name for it, *Parsakarta*, which would be easily corrupted into Pasargadæ, or translated into Persepolis by the Greeks. The existing Persepolis, built by Cyrus's son Darius, was, on this theory, some 25 miles to the S. of the earlier building, the previous work at Parsakarta having been the model of the great Terrace at Persepolis.

In connection with these researches of M. Dieulafoy, M. Oppert has read at three meetings of the Académie des Inscriptions, a long and exhaustive paper (at least, from his point of view), entitled "*Le Prétendu Tombeau de Cyrus*," his principal argument being, that, while the well-known Inscription, "I am Cyrus the Achæmenid King," suggests the probability that the pillars on which this legend has been carved, together with the tomb, were executed by the order of Cyrus, it does not follow that the tomb itself was intended to contain or ever did contain the actual body of the king. Moreover, M. Oppert considers that the form of the tomb is certainly that of one intended for a woman. With this view he thinks that the previous tradition assigning it to the mother of Solomon ought not to be altogether neglected. The existence of this tradition suggests to him, therefore, the probability that it was constructed for Cyrus's wife, Cassandane. M. Oppert further holds that Pasargadæ could not have been at Murghâb, but somewhere to the S.E. of Persepolis, the historian distinctly relating that Alexander the Great, on his return from India, passed Pasargadæ before he came to Persepolis—a view, he argued, which was supported by the Behistun Inscription, where it speaks of the false Smerdis leaving Pasargadæ, a town situated close to a mountain; there are, however, no mountains at or near

Murghâb. His Pasargadæ must therefore be sought towards the Eastern frontiers of Persia.

From the *Academy* (Aug. 19) we obtain a very full account of the curious Buddhist relics which have been recently discovered at Bassein near Bombay, and already noticed in the *Indian Antiquary*. The origin of their discovery was the following: Mr. J. M. Campbell, of the Bombay Civil Service, went with the well-known scholar, Mr. Bhagvanlal Indrajî, to Sopâra, near Bassein, to investigate a mound known as Burud Rajâ Killa. On examining this fort, Messrs. Campbell and Indrajî were satisfied that it was a Buddhist tope or relic mound, and, also, that in all probability it had not been previously opened. They resolved, therefore, to make some excavations, which were carried out by cutting a passage through the mound about four feet wide, the result being that, in the centre, they discovered a small chamber about 2ft. 9in. square. Above the chamber they met with a dark circular stone coffer or box, in the middle of which stood a copper casket six inches high and wide, and, about two inches from the casket, eight copper images of Buddha seated, each about six inches high. Inside the copper casket was a silver one, inside this again a stone one, inside this further a crystal one, and inside the crystal a little round dome-shaped gold box. Within the gold box, covered with gold flowers as fresh as the day they were made, were thirteen small shreds of earthenware, possibly pieces of Buddha's begging bowl, or what was supposed to be such. Many other curiosities were found, *inter alia*, a small silver coin, which Mr. Bhagvanlal supposes to be one of the Shatakarni kings, who ruled in the Konkan in the latter part of the second century A.D. The mound measured seventy yards round the base, and was about thirty feet in height. It is also stated in the same Journal (Sept. 30) that General Cunningham has recently found at Muttra (Mathura) a statue more nearly resembling Greek art than anything that has as yet been discovered. It represents Hercules with the

usual lion-skin. All will rejoice to hear that the Government of India have appointed Mr. J. F. Fleet as Epigraphist to the Archæological Survey of India for at least three years. Mr. Fleet, who was a pupil of the late Dr. Goldstücker, is sufficiently well known from the many (more than one hundred) Sanskrit and old Canarese Inscriptions which he has published in the pages of the *Indian Antiquary*. No more efficient person could be found for the duties he is to perform.

General Progress of Oriental Studies.—Aryan Languages.

Sanskrit.—Many valuable reviews, essays and books have appeared during the past year. Thus, in the Journal of this Society, Vol. XIV. Part 2, Mr. Edwin Arnold, M.R.A.S., has contributed a paper entitled "How the Mahabharata begins":—in Vol. XIV. Part 3, Prof. Monier Williams writes "On the Vaishnava Religion with especial reference to the Sikshâ-patri of the modern Sect called Svami-Narayana, giving also in Part 4 of the same volume, the Sanskrit text of the Sikshâ-patri, with a translation into English; and, in Vol. XV. Part 2, Prof. Cowell publishes "The Tattva-muktâvali of Gauda-purnanda-chakravartin," and "Two modern Sanskrit Slokas." In the Journal of the Asiatic Society of Bengal, vol. li. part 2, Mr. G. A. Grierson has published a paper called "Manbodh's Haribans," in the Maithili (Hindi) dialect of the Bihâri language (text only); and the Society has printed, as supplementary to its usual publications, an Introduction to the Maithili Language, and a Grammar with a Chrestomathy and vocabulary, the first in 1880, and the second in 1882, both by the same scholar. In lii. part 1, Rajendralala Mitra prints "A note on a Sanskrit Inscription from the Lalitpur District," of the date of about A.D. 1424. In the Madras Journal of Literature and Science Dr. Gustav Oppert has printed "The Nitiprakasika," or "Expounder of Policy." In the Journal of the Bombay Asiatic Society, No. xl. are

two papers translated from the Sanskrit by the Rev. A. Bourquin, "On Dharma Sindhu or the Ocean of Religious Rites by the Priest Kasinatha," and two papers by the Rev. Dr. A. Führer, entitled "Manusâradhamma saṭṭham, the only one existing Buddhist Law Book, compared with the Brahminical Mânavadharma śâstram." In the Transactions of the D. M. G. xxxvi. 2, Prof. Roth gives a paper entitled "Der Adler mit dem Soma," from the Rig-Veda, iv. 27:—Prof. Aufrecht (xxxvi. 3-4), "Beiträge zur Kenntniss der Indische Dichter," in two articles, with some remarks [p. 361] by Prof. Böhlingk:—P. v. Bradke writes, Ueber das Mânava-Grhya-Sutrâ:—and Prof. G. Bühler adds a note "Ueber die Erklärung des Wortes Âgama im Vâkyapadîya ii. 1-6." In xxxvii. 1, O. A. Danielsson prints Die Einleitung des Mahabhasya, and Prof. Roth, Lösung eines Rathsels im Veda. In the Journal Asiatique (August and September), M. Bergaigne gives his report "Sur les Inscriptions Sanscrites de Cambodge," and M. Barth his translation of them (see *antè*, Archæology). At a meeting of the Society on November 10, M. Bergaigne read a paper "On a Vedic hymn relating to the descent of Boma on the Eagle," in which he stated that the text did not need certain corrections suggested by Prof. Roth; and, on March 9, M. Darmesteter read an essay "Sur l'origine de la legende mystique du Rig-Veda, qui fait naître la lune de la pensée de l'Etre Suprême et la Soleil de son regard."

In the *Revue Critique*, are full reviews by M. Barth, of Adolph Holtzmann's "Ueber das Alte Indische Epos," of Prof. Whitney's "Index Verborum to the published text of the Atharva Veda," of Dr. H. Brunnhofer's Ueber den Geist der Indischen Lyrik," of T. Zachariae's "Çâçvata's Anekârtha samuccaya, ein homonymisches Sanskrit Wörterbuch," and a notice by M. Havet, of Mr. Bloomfield's "Final *as* before consonants in Sanskrit" (see Amer. Journ. of Philology, iii. 9). In the D. Literatur-zeitung, No. 26, is an article by Prof.

A. Weber, highly praising the edition by Dr. J. Jolly of the Vishnumriti or Institutes of Vishnu, in the Bibliotheca Indica; in No. 32 of the same, of Prof. Zachariae's work; and in No. 8 (1883), of Prof. Weber's Das Septaṭakam des Hala. In the 4th vol. of the Annales du Musée Guimet, M. Paul Regnaud has given a paper on the "Pantcha-tantra." In *La Muséon*, part 1, M. C. de Harlez has printed Une leçon de Philosophie dans l'Inde Antique (Kenôpanishad):—M. Félix Nève writes, "Sur la période de la Composition Dramatique dans l'Inde"; and "Sur les Drames héroïques et mythologiques." The same Journal has also published a translation of a Hymn to Agni (from the Rig Veda) by M. Gius. Turrini, and states that the same scholar has recently translated the Samaveda. At the meeting of the American Orientalists at New York, in Oct. 1882, papers were read by E. W. Hopkins, "On words for colour in the Rig-Veda"; by Prof. Bloomfield, "On differences of use in the Present-systems from the same Root in the Veda"; and by Prof. W. D. Whitney, "On Eggeling's Translation of the Çatapatha-Brahmana for the Sacred Books of the East."

In the *Athenæum*, No. 2853, we have a very interesting letter, partly in answer to a review in No. 2850, from the Rev. Bunyiu Nanjio, M.R.A.S., as Prof. F. Max Müller calls it, "the reply of a real Buddhist Priest to an English Reviewer": and a review of the excellent translation by Messrs. Cowell and Gough of Mādhava Achārya's Sarva Darsāna Sangraha, an account of the different systems of Hindu Philosophy. Madhava is better known by the name of Sāyanāchārya, and has been almost certainly identified by the late Dr. Burnell as the famous commentator on the Rig-Veda. He was elected head of the Smarta order in the monastery of Çringeri in Mysore, A.D. 1331. There is, also, an able review of the Translation for the "Sacred Books of the East," of the Bhagavad-gita, by K. T. Telang, and of Prof. Eggeling's Çatapatha Brahmana, all books well worth preserving in

an English dress, and with the best translation available, though it may be reasonably doubted whether some of these works can be called "Sacred Books." In its present form (for the dialogue is obviously the composition of different ages) the Bhagavad-gita can scarcely be considered the Text-book of any sect, but rather as a sort of Philosophical dialogue between Arjûna, the hero of the Mahabharata, and Krishna, before the commencement of the great battle.—We also learn from the same Journal that a very old MS. recently discovered and sent by the Panjab Government to Dr. Hoernle for his examination, turns out to be a mathematical work in an ancient form of the Gatha Dialect of Sanskrit, and, perhaps, the only Buddhist work on Arithmetic known. Dr. Hoernle will, it is understood, print an edition of this work with an English translation and full introduction. It is also stated that Mr. Cecil Bendall will edit for the University of Cambridge a catalogue of Mr. Wright's Nepal MSS.; that the late Mr. Burnell had nearly completed a metrical version of Manu for Trübner's series; and that Dr. G. Bühler, of Vienna, is engaged to translate the Laws of Manu, for the "Sacred Books of the East."

From the *Academy* we learn that Anundoram Borooah proposes publishing a comprehensive Sanskrit Grammar in 12 volumes, the size and cost of which, however, will, we fear, be beyond the means of most purchasers — though such a work might be fairly carried out by adequate Government support:—that Raja Sourendro Mohun Tagore, who has done so much on the subject of Hindu Music, has undertaken to set to native music "God Save the Queen: "—and that a pupil of Dr. Kern, M. van der Uliet, has published a Dutch translation of Kalidasa's Play "Malavikagnimitra," originally published by Prof. H. H. Wilson. In this edition, the editor gives full credit to Shankar P. Pundit's edition in the Bombay Sanskrit Series, and agrees with him in his vindication of Kalidasa's authorship, against the doubts

expressed by Wilson. A letter is also given by Prof. F. Max Müller on "Prof. Bühler's Sanskrit Grammar," in which the learned Professor at Oxford admits that the work done by Prof. Bühler, and by his colleague Dr. Hultsch, "contains several important improvements, and is not disfigured by any ungrammatical forms."

Among miscellaneous essays or papers may be mentioned by Prof. A. Weber, Ueber ein altes Kurzlich in Punjab gefundenes Sanskrit MS. (Berl. Akad. Dec. 1881):—and Ueber den Kupakscher Kauçikaditya des Dharma-Sagara-Streitschrift eines Orthodoxen Jaina von Jahre 1573 (*Ibid.* July, 1882):—and Ueber Bhavanupala's Commentar zu Hala's Saptacatakam (*Ibid.*)—and, in the Folk-lore Journal, part 4, a paper by Mr. A. Lang, On the Anthropology of the Vedas.

A very important work has been completed, the catalogue and description of the Sanskrit MSS., etc., collected by one of our senior members, Mr. B. H. Hodgson, by Babu Rajendralala Mitra, with a long and interesting preface. The total number of the MSS. presented by Mr. Hodgson to the Asiatic Society of Bengal was 86 bundles, including 170 separate works on various subjects. The great bulk of the works refers to the history, philosophy, morality, and rituals of the Religion of Buddha. Most of the works are narrative, the author in each case relating what he had heard himself. It is right to add that the first idea of this work was due to Mr. Arthur Grote, when President of the Bengal Asiatic Society, and that the mode whereby it has been carried out by Rajendralala and his assistant Pandits was also suggested by him. The work itself has been printed at the cost of the Bengal Asiatic Society.

The following may be noted among books recently published, though perhaps not all have been issued from the press since the Anniversary of 1882. Some too are also in progress.

Apte, V. S., Student's Guide to Sanskrit Composition :—
Avery, J., Polyandry in India and Tibet (American Antiq.

Oct. 1881):—Böhtlingk, O., Sanskrit-Wörterbuch im Kurzen fassung iv. s. 1-263:—Brunnhöfer, Ueber den Geist der Indischen Lyrik:—Bühler, Ueber eine Kürzlich für die Wiener Universität erworbene Sammlung von Sanskrit und Prakrit Handscr.:—Do., Leitfaden für den Elementar-cursus des Sanskrit:—Zachariae, Th., Çâçvata's Anekârtha Samuccaya, ein homonym. Sanskrit. Wörterbuch:—Hultzsch, Third Book of Sanskrit, Bomb. Ed. Dept.:—Vasconcellos-Abreu, G. de, Manual para o estudio do Sânskrito Classico:—Chattopâdhyâya, Nisikanta, Indische Essays (miscellaneous):—Knauer, Ueber die betonung d. composita im. Sanskrit:—Narahari's Râganighantu Varga xiii. ed. by R. Garbe:—Ludvig, A., Rig-Veda, vol. 5, completing the first German translation of the Rig-Veda:—Rajendralala Mitra, Sanskrit Buddhist Literature of Nepal:—Kielhorn, F., Vyakarana-Mahabhashya of Patanjali, vol. 2, part 1:—Bhavanâçandra Vasika, Sannyâsimata-Ayurveda-Sangraha, or Hermit system of Medicine:—Benfey (the late Prof.), Die quantitâts verschiedenheit in d. Samhita u. Pada Texten d. Veda., Abth. 6:—Leumann, E., Das Aupapatika Sutra erstes Upanga d. Jaina:—The Pandit, new series, of Benares, vol. iv.:—Panini's Grammatical Sutra in eight books, edited by W. Goonetilleke:—Malavika en Agnimitra, Toonel stuck van Kalidasa:—N. C. Paul, Treatise on the Yoga Philosophy:—Neisser, W., Zur Vedischen Verbal-Lehre:—and Deussen, S., Das System d. Vedanta. Among books printed in Calcutta, may be noticed—Astanga Hridaya, Hindu Medicine, by Bhag Bhata:—The Gitagovinda by Jayadeva Goswami:—The Kavyadarsha, by Sridandi:—Kavya-Sangraha, a Sanskrit Anthology:—Panchadashi, a Treatise on the Vedanta Philosophy, by Bharatitirtha Vidyaranya:—and Vachaspatya, a Comprehensive Sanskrit Dictionary, by Prof. Taranatha Tarkavachaspati.

Hindi.—In the *Calcutta Review* (July), Mr. Syamacharan Ganguly writes on Hindi, Hindustani, and the Behar Dialects,

and Mr. Grierson writes a paper, entitled "In Self-Defence," in reply to Mr. Ganguly. The following books may also be noted: Brown, J. F., A Hindi Primer in the Roman character:—Pincott, F., M.R.A.S., Hindi Manual, literary and provincial, with complete vocabulary:—By Harischandra (Pandit), Andher Nagari, a drama:—Bharatajanarî, Do.:—Niladevî, Do.:—Gîtâgovinda, with a life of Jayadeva:—a History of the Royal Race of Bundî:—and, Madhumukala, or Songs sung at the Holî Festival.

Bengali.—The following books may be noticed as having been recently published—Muhammad Muhsiner Jiban Charit, a translation from the English of a biographical notice of the founder of the Mohsin Fund:—Swarnalatâ, by Umesh Chundra Nandi, 3rd ed.:—Arya-Gatha, by Dwijendra-lâl Raya:—Sabhâr Karya Nirbuha Bisuyak Bidhi, a translation of Mr. Palgrave's "Chairman's Handbook":—Koran Shureef, a translation of the Koran:—Aitihâsik Pâtha, Studies in Indian History, by Rajani Kanta Gupta:—The Sanhitas, Nos. 1-5, translated by Hara Sundara Tarkaratna:—Sakuntala-tattwas, or a Review of Kalidas's Drama of Sakuntala, by Chandra Nath Basu:—Sandhya Sanyit, by Rabindra Nath Tagore:—Pâribarik Prabandha, Essays on Hindu Domestic Life, by Kâshi Nâth Bhattâcharjya:—The Meghaduta, translated into Bengali Verse by Raj Krishna Mukharji:—and Human Physiology, with a chapter On the Preservation of Health, by Ashutosh Mitra.

Hindustani.—The late Mr. Fallon's New English-Hindustani Dictionary is progressing satisfactorily, the eleventh part to the word "Root" having reached us:—Mr. Pincott has published Alif-Laila-wa-zubani Urdû (the Arabian Nights in Hindustani, but with Roman transcription):—and the Rev. T. Craven has printed "The Popular Dictionary in English and Hindustani and Hindustani and English:—Mr. J. T.

Platts is also publishing a Hindustani Dictionary, of which part 1 is out. Mr. A. H. Keane has been appointed Professor of Hindustani at University College, Gower Street.

Pali, Sinhalese, etc.—Among papers or books may be noticed: Gray, J., Dhammapada or Scriptural Texts, a book of Buddhist Proverbs, from the Pali:—Jayatilaka, S., Sinhalese Omens (Ceyl. Journ. vii. 24):—Minayeff, J., Pali or Magadhi Grammar, translated by C. G. Adams:—Müller, E., Contributions to Sinhalese Grammar (*Ind. Ant.* July-Aug.):—Oldenberg, Dr., Buddha, his Life, his Doctrine, his Order, translated by W. Hoey, M.R.A.S.:—Do., Vinayapitakam, one of the principal Buddhist Scriptures, vols. iv. and v. Of special interest is a translation by Mr. Donald Ferguson, of Colombo, of an article by Dr. Kuhn in the Munich Sitzungsberichte, with the title "On the Oldest Aryan Element of the Sinhalese Vocabulary." In this paper the general view that Childers and others since him have maintained, viz. that Sinhalese is distinctly of Aryan origin, is supported, though it is also shown that many non-Aryan words have crept into it.

Konkani.—Maffei, A. F. X., has published a Grammar of Konkani, with Chapters of the Old and New Testament in the Kanarese character:—and, Gerson da Cunha, J., M.R.A.S., Konkani Language and Literature (*Bombay Gazette*).

Bibliotheca Indica.—In this Series the following works appear to have been published during the last year, but there are probably some others which have not reached the Library of the Society, as their issue is not as regular as it might be: Hemadri, Chaturvarga Chintamani, edited by Yogesvara Smritiratna, vol. iii. part 1:—Vishnu, Institutes of, by J. Jolly, fasc. 1, 2:—Katha Sarit Sagara or Ocean of Streams of Story, by C. H. Tawney, Fasc. 8, 9, 10:—Lalita Vistara, or Memories of the Early Life of Sakya Sinha, by Rajendralala

Mitra, fasc. 2 :—The Mimamsa Darsana, with the commentary of Savara Svamin, by Mahesachandra Nyayaratna, fasc. xvi. :—The Nirukta, with Commentaries by Satyavrata Samasrami, vol. i. fasc. 3. 4 :—The Srauta Sutra of Apastamba, belonging to the Black Yajur Veda, with the Commentary of Rudradatta, edited by Prof. Garbe, fasc. 1, 2, 3 :—The Vayu Purana, a system of Hindu Mythology and Tradition, edited by Rajendralala Mitra :—The Sanhita of the Black Yajur Veda, with Commentary by Madhava Acharya, edited by Mahesachandra Nyayaratna :— and the Yoga Aphorisms of Patanjali, with the Commentary of Bhoja Raja, and an English translation by Rajendralala Mitra.

Sacred Books of the East.—The following works in this Series have been issued during the past year :—Vol. XIV. Sacred Laws of the Aryans, by Prof. G. Bühler, 1882.—Vol. XVII. Vinaya Texts, part 2. Mahavagga v.-x. Kullavagga, i.-iii. By T. W. Rhys Davids and H. Oldenberg, 1882.—Vol. XVIII. Pahlavi Texts, part 2, by E. W. West, 1882.—Vol. XIX. The Fo-Sho-Hing-Tsan-King, by the Rev. Prof. S. Beal, M.R.A.S.—Vol. XXIII. The Zend-Avesta, part 2, by M. J. Darmesteter.

Indian Institute at Oxford.—The Indian Institute continues to make the progress its best friends hope that it will, and the Boden Professor of Sanskrit, Prof. Monier Williams, Hon. M.R.A.S., may be congratulated on the success which has attended the earnest labour he has given to its advancement. A considerable portion of the structure has now been built, and the visitor to Oxford is able to form an idea of the character of the building at the end of Broad Street, one of the best, if not the best, sites that could have been selected for it. On Jan. 1, 1883, the total sum received from contributions with interest and profit on investments had reached £20,149 19s. 4d., about £2400 being yet to be received. This year, on May 2, H.R.H. the Prince

of Wales was pleased to attend at the ceremony (nominal) of laying the foundation stone, and was supported in this good work by a large number of gentlemen, who, from their long practical life in India, were well aware of the value of the institution they were thus called upon to support. To Professor Williams justly belonged the chief honour of this interesting occasion, and every true Oriental scholar will wish that for the future there may never be wanting to the support of the Institute friends as faithful, and administrators as large-minded as its virtual founder. His Royal Highness truly said, "that the building it had been their privilege to see begun this day would be a monument to the Professor's energy and influence," and that "he looked upon this work with special interest because it was a part of that which Oxford was particularly called upon to perform. It had seemed good to those who were in charge of their Indian Empire, that those civil servants who were appointed to take part in its government should have the advantage of special training, and the University of Oxford had stepped forward and secured for itself no small share in that enviable duty. It was their desire that those who were sent forth to that splendid task should carry to the civilization of the East all the knowledge, the culture and the civilization which our older Universities offer. When the restrictions of Caste, which had in the past separated India from this country, grew less and less, a large number of the youth of our Eastern Empire would be found receiving education on our shores; and it was well, that, by the efforts of Prof. Monier Williams and the energy of his friends, a place of welcome had been provided for them at this University."

The Calcutta Review for the last year has many good papers and essays, of which the following may be specified:—Two papers by H. G. Keene, C.I.E., "The Aryan Germ," and "Mediaeval India"; two papers by Syamacharan Ganguly,

“Hindi, Hindustani, and the Behar Dialects” and “The Language Question in the Panjab”; two papers by Capt. R. C. Temple, “Some Hindu Songs and Catches from the Villages in Northern India,” and “Legends of the Murree Hills”; “Indigenous Schools in Oudh and the N.W. Provinces,” by J. C. Nesfield; two papers by R. C. Dutt, “Modern Researches into Early Civilization,” and “The Aboriginal Element in the Population of Bengal”; “In Self-Defence,” by G. A. Grierson; three papers by Mr. E. Rehatsek, “The Monastic and Secular Clergy of Portuguese India,” “Mandelslo and Thevenot, their Travels in India,” and “Carvalho Count of Oyuras”; “Vedantism,” by the Rev. T. J. Scott; “N.W. Settlements,” by J. S. McIntosh; “Phases in the Fortunes of the East India Company,” by G. W. Chine; “Chronicles of the Marava Country,” by J. L. W.; “The Chronicles of Chandrakona,” by C. S. B.; “The Shiahs,” by the Rev. E. Sell; “The Aristocracy of Behar,” by G. P. S.; “Public Works Polity in France, and its application to local self-government in India,” by A. J. Hughes; and “Economic Reform in Rural India,” by Arthur Harington.

Semitic Literature—Hebrew and Chaldee.—Many valuable papers have appeared in different periodical Journals during the last year, some of which it is advisable to notice here. Thus, in the Proceedings of the Society of Biblical Archæology, June 6, Mr. Sharpe has pointed out that in the Hebrew Inscription from Ravenna, noted by Mr. Fotheringham, (see Report of 1882), the Hebrew word ought to be read פֶּרֶן, instead of אֶרֶן, as it seems impossible to get א out of the first letter, while, on the other hand, it is exactly like an פ, except that the opening at the foot is closed, which often happens in writing. In the *Athenæum* (pp. 80, 113, 174), are long notices by M. Shapira, the obtainer of them, of a remarkable collection of Hebrew MSS. written by Karaite Jews, who hold to the faith of the founder, Anan, who lived in the

8th century A.D., and protested, on two chief points, against the accepted doctrine of the Rabbis: 1. That the whole of the twenty-four books of the Old Testament are given by God; and 2. That only the written word of God is to be obeyed, not traditions, etc. The number of M. Shapira's MSS. is, in all, 138. The collection may be considered as supplementary to those brought to England by him last year, and which were for the most part Rabbinical documents. *Inter alia*, in this collection is a large fragment, of more than 300 pages, of an unique Arabic-Hebrew Lexicon, in which many difficult words in the Bible and the Mishnah are explained. The whole of M. Shapira's collection has been now purchased by the Trustees of the British Museum.

There are also good reviews of many important works, such as M. Rénan's "L'Ecclesiaste traduit de l'Hébreu" (p. 138), the date of which he places shortly before the birth of Christ, at the same time strenuously opposing the idea that there are Græcisms in the book, though these have been previously accepted on the authority of such commentators as Drs. Graetz and Plumptre:—of M. Lenormant's "Histoire d'après la Bible," vol. 2 (p. 204), which, like his first volume, is interesting, learned, and suggestive—even if it contains fewer startling novelties. There can be little doubt that his views have been considerably influenced (perhaps unintentionally) by his theological prepossessions, as where, in his Appendix, he controverts Prof. Delitzsch's argument that the plain of Babylonia was the Eden of Genesis. The Indian myth of Meru, surely, has little to do with this matter; moreover, it is, we believe, held by the best authorities to be Post-Vedic:—of the Rev. W. Lowe's "Commentary on Zechariah" (p. 304) for the use of candidates for honours in the Theological tripos:—of Dr. Graetz's "Commentar zu dem Psalmen" (p. 456), in which he suggests that, taken altogether, the Psalms comprehend a literature of eight centuries from David to the Queen

Salome-Alexandra. Dr. Graetz considers these poems to be of a national religious character, and that they may be arranged in five books, corresponding, in this respect, with the five books of Moses: he further believes that David was not the author of any one of them, though some may have been composed by some of his descendants, who lamented the loss of his kingdom:—of Dr. J. Landsberger's excellent and elegant translation of Kalonymos ben Kalonymos's work "*Iggerith Baale Hayyim, Abhandlungen über die Thiere*" (p. 494)—itself a translation from original Arabic sources by Kalonymos, a Jewish scholar of Provence in the fourteenth century. At the end of this work are copious critical notes, of value for the comparative philology treated of in them, as well as for the history of the migration of Fables.

For *Talmudic* Literature, comparatively little seems to have been accomplished during the past year, but we may notice the translation by the Rev. E. G. King of the "*Yalqut* (*i.e.* 'collection') by R. Simon, on Zechariah," with the aid of Dr. Schiller-Szinessy, the learned "*Rabbinical Reader*" at Cambridge (p. 505). This compilation contains, under the head of the Biblical books, all the Agadic passages bearing on them, scattered through the Talmud and the Midrashim. Mr. King has had at his disposal all the editions of the Yalqut, but, unfortunately, no MSS. of the Midrash are known to exist.

It may be added that Dr. Wunsche is fast progressing with his German translation of the *Midras Rabboth* on the Pentateuch—the notes at the end by Drs. Fürst and O. Strashun being valuable for many corrections and elucidations of the translation.

As separate notices, attention may be called to M. Neubauer's interesting account (p. 598) of a Hebrew Deed, dated at Colchester, in A.D. 1258, a transcript of which he has discovered in the fly-leaf of Münster's *Dict. Chaldaic*, Basle, 1527, now in the Bodleian Library (p. 598), and to a further

note by Mr. S. L. Lee (p. 628), in which he states that eighteen years previously to Dr. Neubauer's document (*i.e.* in A.D. 1240), Henry III. summoned a Jewish Parliament to Worcester, three members of which are stated to have been deputed by the Jews of Colchester. A writ, also, of A.D. 1268, mentions Jewish schools in Colchester (*ibid.*). It may be added that, recently, Mr. H. S. Cuming exhibited at a meeting of the Arch. Institute (p. 702), a Jewish horn (shofar) found in the Thames, and of mediæval date, exactly resembling those still in use in the synagogues; that Hr. Fischl Hirsch, of Halberstadt (p. 347), has recently discovered in Spain, MSS. of the Jerusalem Talmud, part Zeraim, with the commentary by Sirillo, as well as the Babylonian Talmud, part Nashim, and Tract Eduyoth; and that the National Library at Paris has lately acquired a MS. of the Mishnah and Babylonian Talmud, containing the Tracts "Babu Bathra," "Abodah Zerah," and "Horayoth," its date being, probably, about the twelfth century (1883, p. 55). Lastly, Dr. Ginsburg has contributed (p. 409) a letter of great value, on a MS. of the Old Testament, lately acquired by the British Museum, consisting of three large quarto volumes, of 184, 273, and 186 folios respectively. The MS. is of late date, having been finished at Lisbon in A.D. 1483, but is of great beauty and interest, its illuminations exhibiting a mixture, not only of French and Flemish art, but of German and Italian, interspersed with decorations of an Oriental character, more especially Persian. It is, no doubt, a careful copy of an ancient codex, the various readings given in the margin clearly showing that it has been compiled from well-known and accepted recensions. It cannot be doubted that this codex is of great importance for the criticism of the text.

In the *Academy* (p. 436) we have a curious paper by Prince L. L. Bonaparte on the "Hebrew ף and the nasal guttural consonant," in which, after an elaborate statement

of details, he suggests "that the corrupted Jewish European pronunciation of [n] for y" is possibly "due to the Celtic, a language which, even in its Bardic Alphabet, was in possession of a symbol peculiarly shaped, and exclusively expressing this non-radical nasal sound." We have, also, notices of the Rev. T. K. Cheyne's "Micah," a new volume of the "Cambridge Bible for Schools," in which the writer maintains the divisions and dates of the several prophecies, as suggested first by Ewald, but modified by Wellhausen. The text is admitted to be in many places hopelessly corrupt:—of the Rev. W. Lowe's "Hebrew Student's Commentary on Zachariah" (p. 26), and Mr. H. J. Mathews's "Rabbi Saadiah" in the *Anecdota Oxoniensia*, Semitic Series, vol. i. part 1, both previously noticed:—of Dr. H. L. Strack's "Pirque Aboth" (p. 27), the most popular and the most interesting of the Treatises of the Mishna:—with a brief sketch of the Shapira MSS. (p. 53), and an interesting notice by Mr. C. J. Ball of the Rev. B. Spiers' "School System of the Talmud" (p. 61), which shows much good common sense on the part of the Rabbi teachers. We have, also, a notice by Dr. Driver, Reg. Prof. of Hebrew at Oxford (from the *Journal of Philology*), of some alleged linguistic affinities of the "Elohists," his argument being that the reasoning of Giesebrecht does not prove that the date of the "Elohists" writings must be between A.D. 700 and 450.

To the *Revue Critique* M. James Darmesteter contributes a paper on some new Judæo-Persian MSS. lately discovered by M. Neubauer in Paris, the important nature of which was pointed out by M. Munk, forty years ago. In the same *Journal* (Sept. 25) are notices of a paper read before the Acad. d. Inscriptions by M. Halévy, entitled "L'Immortalité de l'âme chez les Semites," in which he referred to the descent of the goddess Astarte to Hades in search for Tammuz, etc., and one, in reply to the preceding (Oct. 9) entitled "L'Immortalité de l'âme chez les Juifs," by M. Derenbourg. There are,

also, excellent reviews by M. Halévy (Feb. 12) of Chwolson's *Corpus Inscript. Hebraicarum*, the great importance of which he points out to be the final settling of the extent to which Firkovich had carried his forgeries, while the paper is an adequate answer to the virulent denunciations of MM. Harkawy and Strack. There are dates, unquestionably genuine, for the years A.D. 240, 289, and 330. To these may be added notices of M. Schurer's "*La communauté Juive de la Rome antique*"—a very curious history; of Ascoli's *Inscriz. inedite, Hebraichi*, etc. (noted in former reports); and by M. Clermont-Ganneau of M. Chwolson's "*Corpus*."

Besides these, is an excellent review (Jan. 22), by M. Maurice Vernes, of Dr. Reuss's valuable "*Geschichte der Heiligen Schriften Altens Testaments*," now, at length, brought to a completion:—a curious paper read to the Acad. d. Inscr. by M. Derenbourg, "*Sur les usages funéraires des Juifs*" (Feb. 12), with special reference to the true sense of the Hebrew word "*Nefesch*," which led to some discussion at the time (though fully accepted by M. Renan), but has since been opposed in England by Mr. Cheyne and Prof. Robertson Smith (*Acad.* March 10 and 17, 1883):—an excellent review (March 12) by M. Halévy, of M. Ledrain's "*Histoire d'Israël*," 2^{de} partie, extending to the Revolt of the Jews in the time of Hadrian, A.D. 135, a work well worth reading, though disfigured by a large number of erroneous transcriptions and translations:—and by M. Vernes of M. Horst's "*Leviticus xvii.-xxvi. und Hezechiel*." M. Horst is a pupil of Dr. Reuss. In the *Muséon* (Tome i. pt. 1), M. Lenormant writes of "*Og et Magog, étude Ethnographique*" (Gen. x):—and Tome ii. p. 2, on "*Les peuples de Toubal et de Meschech*," and M. Ch. de Motais has a paper on "*Le Second Chapitre de Genèse*." In the *Rev. Archéologique* (May), M. Ledrain has a paper "*Sur deux Sceaux portant le même nom Hébreu*:"—and M. Lenormant in the *Journ. d. Savants*

(Aug. Oct.) has written "De populo Javan." To the *Revue des Etudes Juives*, MM. Renan, Derenbourg, Neubauer, Moses Schwab, Steinschneider, Bloch, Loeb, and others have contributed valuable articles, which, however, it is not necessary to particularize here.

Among Miscellaneous books issued during the last year may be mentioned Bacher, W., *Die grammatische Terminologie des Jehûda ben Dawid Hajjug*:—Wunsche, A., *Midrasch Schemot Rabba, de Haggadische auslegung des zweiten buch Moses*:—Levy, J., *Neu-Hebraisches u. Chaldaisches Wörterbuch*, Lief. 15:—Schwarz, A., *Die Tosifta der Tractatus Erubin in ihrem verhältnisse zur Mischna Kritisch untersucht*:—Dr. Ginsburg's *Massorah*, 2nd vol. completing the text:—Rev. T. K. Cheyne, *Prophecies of Isaiah*, vol. ii.:—Seymour, W. D., *New Metrical Translation of the Psalms*:—and Winer's *Chaldäisch grammatik für Bibel u. Targumim*, 3 Auflage.

Arabic.—There is perhaps less to record on the subject of Arabic pure and simple, than in former years, but there are some interesting matters to notice, more or less connected with it. Thus, in the *Athenæum* (1883, p. 504), there is a very interesting account of M. Derenbourg's "*Livre de Sibawaihi*" (the review of this book by M. Guyard in the *Revue Critique* was noticed in the last Report). It appears that the idea of editing this, the greatest of the Arabic Grammatical works of the middle of the eighth century A.D., was suggested, as far back as 1867, to his pupil, M. Derenbourg, by the veteran Arabist, Prof. Fleischer; and, at length, after a long and careful study, extending over more than ten years, of all the known MSS. at Cairo, in the Escorial, at the Bodleian, in Paris, St. Petersburg, Vienna, etc., M. Derenbourg has brought out his edition, not, however, till it had been revised by Profs. Noldeke and Prym. The value of Sibawaihi's work is that it is, in fact, a literary history of early Arabic poetry, embodying as it does many verses of the earliest poets,

together with notes of older grammarians, which have now perished. Another work of considerable importance also noticed on the same page is Dr. J. Wellhausen's "Muhammad in Medina," an abridgment of Al Wakidy's account of Muhammad's campaigns, during the Medina-period of his career. The only perfect MS. of this work is in the Library of the British Museum. It is a pity that Dr. Wellhausen has adopted a plan for the transliteration of Arab names, which is simply disfiguring the Arabic originals. Few would at once recognize Muhammad in Muxammad, Wakkâs in Abu Vaqqac, or Ohod in Uxud. In Spain, we learn (p. 892) that the Arabic Text of Ibn Bashcuwal, a Hispano-Muhammedan Historian of the thirteenth century, has recently been published. It is the first of its class printed in Spain, since the beginning of the present century, and, at present, consists only of the Arabic text. The Villon Society are issuing to subscribers Mr. J. Payne's translation (unabridged) of "The Thousand and One Nights"—and three volumes of this work have already appeared. We may add that in the *Revista Contemporanea* of January, is an important paper by Vicente Tinajero "On the Moallakahs," in which he treats first of the Dialects and then of the life and exploits of Amr-ul-kais, the first of them—on the same subject—being continued in the paper for February, the life of Amr-ul-kais being completed, with the translation of his Moallaka. That of Amr son of Kolthoum is soon to follow: and that in the *Cornhill* for March there is an interesting paper on the writings of the Arab Philosopher, Al-Hariri, who died in A.D. 1122.

In the *Academy* (1882, p. 407) is a review, by the Rev. G. P. Badger, of considerable length, of Mr. W. S. Blunt's "Future of Islâm":—A notice (p. 6) of Mr. S. L. Poole's "Speeches and Table Talk of Muhammad," a work of real value as giving those who cannot read Arabic a clear idea of what manner of man the Prophet of the Arabs really

was, and of the true character of the Religious and Ethical teaching of the Koran. Mr. Poole's work, which is a good and effective specimen of historical criticism, shows this at least, that Muhammad was neither a mere impostor nor a madman:—then we have a learned review by Mr. Badger (p. 87) of the late Mr. Wherry's "Comprehensive Commentary on the Qurán," in which, however, he is compelled to point out innumerable errors in transliteration, arising, no doubt, from the fact that Mr. Wherry's knowledge of Arabic was scarcely sufficient for the task he undertook:—Mr. Poole, also, very fully reviews (p. 118) Mr. C. J. Lyall's "Translations from the Hamâseh" (originally printed in the Journ. of the Beng. Asiat. Soc.), and claims for him to be "the best translator of the earliest Arabic Poetry," just as the late Prof. Palmer "had an inimitable power of rendering the later poetry which flourished at the Khalif's Court at Baghdad." Some of the poems in this selection go back as far as the fifth century A.D., and "breathe the true spirit of Desert Poetry":—Mr. E. T. Rogers (Rogers Bey) has also contributed (1883, p. 210) an article "On Early Arab Monuments in Cairo." Mr. Rogers was so fortunate as to see, in company with the Architect to the Ministry of Wakfs, a mausoleum containing marble slabs engraved with the titles and dates of the deaths of many members of the Abbasside Family, and of some of the Mamluk Dynasty.

On p. 221, the same writer gives some valuable notes "On the 'Atfah, the Mahmil, and the Ark of the Covenant."

From the *Revue Critique* (1882, June 12) we learn that M. H. Tassy has completed the translation of an Arabic MS. procured by him at Ouargla, and has transmitted the same to the Académie des Inscriptions:—M. Rubens Duval also (p. 141) reviews, at great length, the valuable memoir by M. Socin, "Die Neu-Aramäischen Dialekte von Urmia bis Mosul," a continuation, so to speak, of his former book on

the Aramæan Dialect of Tur-'Abdin. This, with his previous work (in 1878), "Arabische Sprichwörter und Redens-arten," affords ample proof of his linguistic zeal. It is understood that he is now engaged on a collection of Kurd songs and texts. M. Gunzburg reviews O. Loth's "Ueber Leben und Werke des 'Abdallah ibn al Mû'tazz," reprinted by the German Oriental Society, after his lamented death a year since.

In the *Journal Asiatique* (Aug. Sept.) M. N. Siouffi gives a curious account of the sect of the Yezidis (a subject perhaps not strictly Arabic); and M. Clement-Huart, "Notes sur quelques Expressions du dialecte Arabe de Damas (Jan. 1883). In the Trans. of the D.M.G., xxxvi. 2-4 and xxxvii. 1, are papers by Dr. J. Baermann, entitled, Abhandlung über das Licht von Ibn-al-Haitam;—Goldziher, Ig., Beiträge zur Erklärung des Kitâb-al-Fihrist;—A. Socin, Der Arabische Dialect von Mosul und Mardin:—R. Dozy (whose unexpected death all Oriental scholars will deplore), Ueber einige in Granada entdeckte Arabische handschriften:—D. H. Müller, Kritische Beiträge zur Süd Arabischen Epigraphik:—Gildemeister, J., Des Abd-al-Ghani Al-Nabulasi Reise von Damascus nach Jerusalem:—Sendschreiben von C. Lang an Prof. Fleischer; and two further notices by Prof. Noldeke and F. Liebrecht on Socin's Dialects of Urmia. In "*Le Muséon*" is a paper by A. F. van Mehren, entitled, "Three Treatises of Avicenna on the Soul" (in Swedish). In the works of the late M. de Longpérier, now in course of publication (vol. i. p. 504, etc.), are many papers connected with Arabic subjects (for the most part Numismatic).

In the *Edinburgh Review* (October and April, respectively) are papers by Mr. S. L. Poole, on "The Coran," and "The Empire of the Khalifs."

The following books have been issued from the press during the last year. Wellhausen, Mohammed in Medina:—Devic,

Les Pluriels brisés en Arabe ; and, by the same, Les Villes de la France Méridionale au moyen-âge d'après les Geographes Arabes :—S. L. Poole, Arabian Society in the Middle Ages : a new Edition of Mr. Lane's "Arabian Nights"—"Hours in a Mosque," and Speeches and Table Talk of Muhammad :—Dieterici, F., Die sogenannte Theologie d. Aristoteles aus Arabischen Handschriften zum ersten male herausgegeben :—Bollig, J., Brevis Chrestomathia Arabica :—Pertsch's Arab. Handschr. zu Gotha, Bd. 4, pt. 1 :—Merx, A., Die Saadjanische übersetzung des hohenliedes ins Arabische :—Codera, Bibliotheca Arabico-Hispana, vol. 1, pt. 1 :—Babelon, E., Du commerce des Arabes dans le Nord de l'Europe, avant les Croisades :—Dictionnaire Français-Arabe, 3^e Ed. :—Il Corano, nuova traduzione Italiana d' all' Arabo :—Halevy, J., Essai sur les Inscriptions du Safa :—Gonzalez, Dr., Historia de Zeyyad ben Amir el de Quinena (del texto Arabigo) :—Wright, W., The Kāmil of El Mubarrad, edited for Germ. Orient. Soc. 11th pt. :—Lane's Arabic-English Lexicon, edited by S. L. Poole, vol. vii. pt. 2 :—Rosen, Baron V., Notices sommaires des MSS. Arabes du Mus. Asiat. de St. Pétersbourg, vol. 2, livr. 1 :—Trumpp, E., Der bedingungssatz im Arabischen :—Of the new edition of the Annales de Tabari, Series I. No. 4, and Series III. No 4, have been issued.

Syriac.—In the D.M.G. xxxvi. 3, 4, Professor Noldeke reviews "The Chronicle of Joshua the Stylite" as translated and edited by Professor W. Wright of Cambridge :—and Dr. Nestle reviews G. E. Hoffmann's "Julianos der Abtrunnige." There is also a letter on a Syriac question from Dr. Imm. Low to Prof. Fleischer. In xxxvii. 1, is a paper by Dr. F. Baethgen, entitled Syrisch (incl. des Mandäischen, der Sinaitischen Inschriften u.s.w.) :—In the *Revue Critique* is a long notice of M. Lamy's Ephraem of Edessa :—of Wright's Chronicle of Joshua the Stylite by M.

Duval:—and of Prof. Nestle's *Brevis Linguae Syriacæ Grammatica*. Dr. Merx is, we understand, about to publish a Syriac translation of Dionysius Thrax, made in the early part of the sixth century, which he has discovered in the British Museum. Of books recently published, may be noted—Macke, C., *Hymnen aus dem Zwei-strömeland Dichtungen d. Heil. Ephrems des Syrsers*:—Lamy, J. T., *Sancti Ephraem, Syri Hymni et Sermones* (to be in 3 vols., only one of which, we believe, is as yet published):—and Kleyn, H. C., *Het leven van Johannes van Tella door Elias, Syrische tekst*, etc.

Æthiopic.—In the *Z. d. D. M. G.*, xxxvii. 1, is a short paper by F. Praetorius, entitled “Abessinien.” In the *Revue Archéologique* (August, Sept. and Oct., 1882), M. E. Dronin gives a very important paper, “*Sur les listes Royales Ethiopiennes et leur autorité historique*,” in which he deals, successively, with the annals, inscriptions, and coins, Greek as well as Abyssinian, bearing on this subject; adding, at the same time, an useful catalogue of the kings;—and, in the *Sitzungsberichte d. K. P. Akad. d. Wissensch. zu Berlin*, is a paper by Prof. Dillmann, entitled “*Beiträge aus dem Buch der Jubiläen zur Kritik des Pentateuch-Textes*.” One curious book may be noticed, chiefly from the eminence of the scholar who has translated and annotated it—*The Book of Adam and Eve*, etc., from the *Ethiopic*, by the Rev. S. C. Malan.

Assyrian, etc.—Before the Society of Biblical Archæology, many valuable papers have been read and useful discussions raised on matters of importance. *Inter alia*, is a valuable letter from Mr. Sayce on a paper by M. Bertin “*On Assyrian Numerals*,” in a previous part of the *Trans. Bibl. Arch. Soc.*, and a subsequent one, on the same subject, by Mr. Pinches, with a useful list of the numerals in common use (p. 116):—there is, also, a paper by Mr. Pinches on “*Some recent discoveries bearing on the ancient history and chro-*

nology of Babylonia," most of these being the result of Mr. Rassam's recent excavations at Sipara or Sepharvaim. The chief importance of the tablets Mr. Rassam found lies in the dates on them which may enable us to check the chronology of the period to which they refer. Of the cylinders the most valuable, from the historical notices it contains, is that of Nabonidus (p. 7), containing, as this does, Nabonidus's own statement that Astyages was defeated by Cyrus. From the same cylinder we, apparently, get for Naram-sin, the very early date of 3700 B.C. It may be added, that Dr. Oppert, who was present when this paper was read, assented to the view propounded by Mr. Pinches, while he, at the same time, noticed the discoveries of M. de Sarzec and gave a translation of one of the Statue-Inscriptions.—To the same Journal M. Bertin has contributed (p. 19) a paper "On the character and influence of the Accent in Akkadian and Assyrian words," and Mr. Pinches has commenced (p. 21) a series of papers "On Assyrian Grammar," which we hope may be continued: in the first paper, Mr. Pinches deals with the Verb and its forms. Later on, Mr. Sayce has given (p. 45) a letter addressed to Mr. Rylands on "The Kappadokian Cuneiform Inscription now at Kaisariyeh," engraven on a stone, bearing a curious piece of sculpture, representing a king seated, as on the Assyrian monuments, with his fan-bearers, etc. The forms of the characters are clearly Ninevite—what, however, is their meaning, is not so certain. To this letter, M. Bertin appended some suggestions. Mr. Pinches also contributed a paper (p. 67) "On Babylonian Tablets relating to Householding," the *data* for which have been found by the writer among the "Egibi Tablets" at the British Museum; the documents themselves being of the reign of Nabonidus:—with a further paper "Upon the name Benhadad," followed by a note from Mr. G. Bertin. At one of the meetings of the Society (March 6) Mr. Hormuzd Rassam gave an interesting personal narrative of his own researches,

entitled "On recent discoveries of Ancient Babylonian Cities," the most important site investigated being a mound called Abû-habba, on the grand canal of Babylonia. This mound has now been identified with Sippara. Excavations were also carried out by Mr. Rassam at Tel-Ibrahîm, possibly the ancient Kutha; and a description was added of the Palace of the Birs-i-Nimrud, where Nabonidus is believed to have been residing when Cyrus captured Babylon. Quite recently (April 3, p. 103) Mr. Pinches has described a small contract tablet (found at Babylon by Mr. Rassam, with the names of the contracting parties in twenty-three lines of cuneiform writing. What is most curious is, that, immediately before the name of the scribe, is a line of writing very clearly expressed, in what are called unknown characters, which is certainly true of *some* of them; others, on the other hand, have a remarkable resemblance to Phœnician;—and (p. 120) Mr. Pinches and M. J. Oppert have written letters on the same subject.

In the *Athenæum* (June 17, p. 762), is a notice of an article by M. Guyard in M. Maurice Vernes's "Revue de l'Histoire des Religions," entitled "La question Sumero-Accadienne," in which he gives a clear account of Dr. Haupt's discovery of the two distinct dialects found on the Assyrian tablets, to which the names of Accadian and Sumerian have been given. It should be remembered that M. Guyard has lately changed his mind, and now supports M. Halévy's doctrines:—there is also (December 9) an important article by Sir H. C. Rawlinson on the "Cylinder of Nabonidus," to the description of which by Mr. Pinches we have already called attention. In this paper, the Director R.A.S. *generally* confirms the views enunciated by Mr. Pinches and supported by M. Oppert, at the same time pointing out that Nabonidus was not only a king, but an antiquary, and that, however difficult it may appear at first sight, to accept the dates he gives, there is no reason to suppose that the Royal chronology

is other than trustworthy. Sir H. C. Rawlinson adds, that the Babylonians certainly used "the Flood as an accepted historical epoch." "At present," to use his own words, "the Era of Sargina and its connexion with the Flood is the most interesting point in ancient Babylonian history."

In the *Academy* (June 24, 1882, p. 451), M. Halévy deals at length with the question of "Sumir and Accad," which we might have thought had been pretty completely worked out long ago. Obviously the line adopted by M. Halévy cannot be followed by any one of the eminent scholars to whom we really owe every practical advancement in the study of Assyriology. M. Halévy's view can only be called an hypothesis, for which he has the present aid of M. Guyard. There is, also, a well-reasoned letter by M. de Lacouperie (July 1), On the Accadian and Sumerian Dialects, in which he firmly maintains the existence of these two leading non-Semitic dialects of Babylonia, as well as that of several other local dialects, which is really no more than might have been reasonably expected. Much more on the same subject has been advanced by the chief leading writers who have paid attention to this branch of Cuneiform research; but it is only possible here to indicate the place where their papers may be found, and the titles of them. — Thus M. de Lagarde discusses (July 18) the parts severally taken by MM. Hommel, Haupt, and Lenormant, on the question of "Sumir and Accad," and Mr. Sayce adds a note thereon: and Mr. Pinches deals fully with the whole subject (July 22), pointing out clearly what Dr. Hommel's views really are, which were by no means so intelligible in his own letter of May 20, 1882. Later on (Dec. 30) Mr. Sayce gives a too brief account of the Cuneiform Antiquities lately found in the Vatican, where they had remained unnoticed for the last forty years. Of these monuments, one of the most interesting would seem to be a fragment *in relief* of the inscription found on Nebuchadnezzar's bricks. In the same letter, Mr. Sayce gives an

interesting report on his examination of the remains of Monte San Giuliano (the ancient Eryx), and shows that much of the structure still existing is due to the original Phœnician architects.

In the *Revue Critique* are several notices bearing on Assyrian matters, many, if not most of them, reports of papers read before the Acad. des Inscriptions. Of these a brief summary may be given. Thus (in No. 27) it is stated that M. Oppert has continued, before the Acad. d. Insc., his paper, the Inscriptions of King Goudea, found by M. de Sarzec:—and that the second volume of MM. Perron and Chipiez' "Histoire de l'Art" is progressing, and will ultimately contain a complete representation of all the Assyrian objects obtained by M. Sarzec:—In No. 28 is a paper by M. Oppert on "Un poids Médique au Louvre," in which he thinks may be read in Cuneiform characters, "Un Sixième, Maison Royale, Cent drachmes," but this reading he admits to be, at present, conjectural:—In No. 29, M. Guyard deals with the Assyrian word "Tamkara" or "Damkara," either of these being (according to him) a derivative from a root "makâra":—M. Halévy, in No. 30, adds some further remarks, "Sur la langue Sumérienne," and M. Ledrain, the translation of an unedited brick of the Sarzec collection, on which he recognizes the name of "Lik-Papsoukal, son of Goudea," and M. Lenormant replies to the charges of Dr. Hommel against Dr. Haupt:—In No. 31, M. Halévy enforces his usual anti-Accadian views:—Lastly, to No. 33, M. Heuzey contributes some notes on the "Sarzec Collection," reading on one of the tablets the name of a King of Sirtella. Subsequently, he seems to have found the names of four other rulers of this place. These sub-rulers are, he thinks, later than the King whose name has been read Goudea:—M. Heuzey contributes also a paper on the same subject in No. 38:—M. Oppert (in Nos. 38-9) contributes notes, "Sur la plus ancienne date Chaldéenne connue jusqu'ici," in which

he refers, at some length, to Mr. Pinches's paper, already noticed, on the remote date of Naran-Sin, adding, at the same time, a few remarks on the discovery in the Vatican. Two of the fragments found there, he says, are portions of inscriptions of Sargon, and one, probably Hamathite or Hittite. He adds that these objects were brought from Mosul by a certain Father Ryllo, S.J.

M. Oppert has also read at a recent meeting of the Acad. d. Insc. (March 2, 1883) a Memoir, "Sur deux très anciens textes de la Chaldée," from the Sarzec Collection. The name of the King, Sirtella, as read by M. Heuzey, for the present he proposes to call "Ur-Ninâ:"—Again (on April 6), he gave a notice of two "cylindres-cachets," belonging to M. Tyskewitch, bearing Cuneiform Inscriptions. M. Oppert is of opinion that the *language* of these Inscriptions is Phœnician.—In the *Journal Asiatique* (Aug.-Sept. 1882) M. Amiaud prints a paper entitled "Une Inscription non-Sémitique de Hammourabi traduite en Assyrien."—There is nothing bearing on Cuneiform research in the Zeitschrift d. D.M.G.—Mr. Pinches has contributed to the *Philological Society* a very useful Report on the Progress of Cuneiform Research, which is printed in the Address of its President, Mr. A. J. Ellis, p. 77.—In "*Le Muséon*," Tome I. part 3, Dr. Philipp Keiper has reviewed at some length the new edition of Dr. Spiegel's Alt-Persische Keil-Inscripfen: and M. Patkanov has a paper in the same periodical (Tome I. part 4), "De quelques Inscriptions de Van" (printed before he had received Mr. Sayce's article):—there is also a notice on the same subject by M. Emile J. Dillon. This writer, like his predecessor, has not seen the whole of Mr. Sayce's article.—In the first volume of the "Œuvres de M. Longpérier" are many articles by him on Cuneiform matters, the detailed list of which it is not necessary to reprint here. A man of versatile talents, with a special devotion to Numismatic Archæology, it is simply true to say

that Assyrian research was not his *forte*. It should be added that in the Transactions of the Oriental Congress of Berlin are many papers relating to Cuneiform research, which need not, however, be specified here individually.

Among separate works published during the last year, or in course of publication, may be mentioned the following: Schrader, Prof., New Ed. of his *Keil-Inschriften und das Alte Testament*:—by the same, *Die Sargon-Steile d. Berlin. Mus.*:—Stolze, F., *Persepolis, etc.*, 2nd Band, with 77 plates:—Chossat, E. de, *Repertoire Sumérien*:—Halévy, J., *Documents Religieux de l'Assyrie*:—Aures, A., *Essai sur le système Métrique Assyrien*:—Evans, G., *An Essay on Assyriology*:—Hommel, F., *Die Vor-Semitische Kulturen in Ägypten u. Babylonien*, 2nd part:—Kaulen, *Assyrien u. Babylonien nach den Neuesten Entdeckungen*:—Menant, J., *Fouilles de M. de Sarzec en Mesopotamie*:—Do., *Remarques sur les Portraits des Rois Assyrio-Chaldéens*:—and, in progress, the *Assyriologische Bibliothek* of MM. Delitzsch and Haupt, Band IV.

China Review.—In this publication there are during the past year many articles of value, not only to those who are on the spot, but to those who, far away, for various reasons, take a lively interest in China and its doings.

Thus, in vol. xi. part 1, Mr. Herbert Giles criticizes very freely Mr. Balfour's "*Chuang Tsze*," and his criticism is probably so far just, that Mr. Balfour does not, like him, contend for literal translations, but seems too often to translate according to the "guess-at-the-meaning" principle:—Mr. E. H. Parker continues his pleasant narrative of his "*Journey in North Sz Ch'uan*":—Mr. J. Warrington Eastlake contributes a paper, which will be appreciated by musicians, "*On the Chinese Reed-Organ*"; and Mr. Calder gives some valuable "*Notes on Hainan and its Aborigines*," from which it would appear that some of the Islanders, at least, are more connected in origin with the Malays than with the Chinese.

They appear to have no written characters or alphabet:— There is also a brief but good notice of Mr. Villard's "*Étude sur la littérature Annamite*"; and of M. Léon de Rosny's "*Revue Orientale et Américaine*," tome iv. Num. 14." The rest of the number deals with matters of comparatively little importance out of China.

In vol. xi. part 2, the first article is a long one, entitled, "Some Scraps from Chinese Mythology," translated by Mr. J. Dyer Ball, which will appeal most directly to lovers of Folk-lore and the like:—A notice by Mr. Kingsmill of Dr. Legge's "*Yh King*" in the "*Sacred Books of the East*," which can hardly be considered as favouring either the thing translated or the translator; and papers by Messrs. Eichler, Piton, and E. H. Parker, on "*The K'uan shi wan*; or, Practical Theology of the Chinese," "*The Fall of the Ts'in Dynasty and the rise of that of Han*," and "*On the Dialects of Eastern Sz Ch'uan*," respectively. Each of these are excellent in their several ways, but the last will be the most interesting to Oriental scholars, as an attempt to extend Sir Thomas Wade's system of spelling to various dialects; for, says the writer, "of all spelling systems hitherto adopted to express Chinese sounds, his seems to be the best made and the best known." In the "*Notes*" is given a translation of Prof. Gabelentz's address to the Berlin Congress on the subject of his new "*Chinese Grammar*."

Vol. xi. No. 3, contains some amusing extracts from the Diary of the Marquess Tseng Hon-Yeh, Chinese Minister at the Court of St. James, and Hon. Member R.A.S., which we hope may be continued in future numbers, as showing the remarkable good sense of the diarist:—A continuation of Mr. Eichler's paper on "*The Practical Theology of the Chinese*," which would be the better had the notes of the writer or editor been, considerably for his readers, somewhat abridged:—A paper by M. Schaub, "*On Shang-ti, the El-eljon (whoever he may be) of Genesis*":—Mr. G. H. Playfair gives some

pleasant "Chinese Popular Tales"; Mr. Eitel continues from a former number his useful "Notes on Chinese Porcelain"; and Mr. Piton adds another chapter to his "Fall of the Ts'in Dynasty," etc. In the reviews of new books is a brief but good one of G. von Gabelentz's "Chinesische Grammatik," a work which is really much more than a mere grammar, indeed, an exhaustive scientific compendium and manual of reference, principally for the study of the classical and post-classical language; and of Dr. Chalmers' "Account of the Structure of Chinese Characters."

In vol. xi. pt. 4, Mr. J. Dyer Ball continues his "Scraps from Chinese Mythology," and Mr. C. Piton, his "Fall of the Ts'in Dynasty and rise of the Han"—the former of which contains, in the notes, a good deal of valuable matter, while the latter is an important historical document. Besides these, Mr. Don gives "The Lliu-nem, a variation of Cantonese," which may be useful to Chinese scholars; and Dr. Edkins "Notes on some Chinese Words," to which the same remark applies. The "Notes and Queries" appended contain, as usual, a good deal of important matter.

China.—Besides the *China Review*, a considerable number of papers, essays, and books have been published with reference to this country, to some of which attention will now be called. Thus, in the *Athenæum* (Sept. 2) is a review of Dr. Legge's translation of "The Yî King" (Sacred Books of the East, vol. xvi.) or "Book of Changes." The original work consists of sixty-four hexagrams, with short texts, and of certain appendices, technically called "Wings," pretty generally, though not universally, ascribed to Confucius, though it would seem that for this ascription there is little that can be called evidence. Canon McClatchie, in 1876, published a version of this work, but the theory he put forth for its explanation has not been generally accepted, while it is formally condemned by Dr. Legge. On Sept. 9 is a notice of the same translation by

Mr. T. de Lacouperie, in which the reviewer states that the Yh King is a "kind of vocabulary containing the meaning of threescore words with a quantity of information on the writing, language, customs, peoples, etc., of Old China:"—in Sept. 23, Dr. Legge replies to M. T. de Lacouperie:—and, in Sept. 30, there is a rejoinder from M. T. de Lacouperie. In Sept. 16, Mr. Hyde Clarke gives a paper in which he compares Mr. Colborne Baber's Lolo characters with the apparently modern alphabet of the Vei or Vy on the West Coast of Africa—a comparison from which Mr. T. de Lacouperie entirely dissents (Sept. 23). In the paper for Sept. 16, are brief but excellent notices of Prof. Beal's "Abstract of four Lectures on Buddhist Literature in China;" of Mr. F. H. Balfour's "Divine Classic of Nan-hua, being the works of Chuang-tsze, Taoist Philosopher;" of Mr. H. A. Giles' "Historic China and other Sketches;" and of Prof. Douglas' "China," published for the S. P. C. K. *Inter alia*, may also be noticed a pleasant sketch of Mr. Colborne Baber's Travels as published by the Roy. Geogr. Soc. (Sept. 2):—"The question of an Overland Route to China from India viâ Assam, with some remarks on the source of the Irawaddi River," by C. H. Lepper, M.R.A.S.:—and of Col. Yule's "Notes on the oldest records of the Sea-route to China from Western Asia," printed *in extenso* in the Report of the Brit. Assoc. for 1882.

In the *Academy* are reviews of the 2nd volume of the History of China by Mr. D. C. Boulger, M.R.A.S.:—and a notice of a paper by Dr. W. A. P. Martin (published in the "Revue de droit International," No. 3), "On the vestiges of an International Law in China." Dr. Martin is the President of the Tungwen College at Peking, and the Director of a College established by the Chinese Government for the education of the sons of Mandarins, who contemplate a diplomatic career. There is, also, a letter from C. T. Gardner, Esq., H. M. Consul, Ichang, "On the written and unwritten Laws of China," and plenty of matter on the Subject of the Transla-

tion of the "Yh King," as represented by Mr. Douglas's Review of Dr. Legge's Translation (Aug. 12); a reply by Dr. Legge to this review (Sept. 30); a further notice by Dr. Legge of an article in the *Quarterly Review* which has been attributed to Prof. Douglas:—and a rejoinder by Prof. Douglas to Dr. Legge's letter (Oct. 7). In Nov. 4 Prof. Beal calls attention to the remarkable similarity he has detected in the Vinaya Pitaka of the Chinese Collection of Buddhist books, with the famous Welsh legend of the dog Gelert. The Chinese book dates from the time of Fahian (A.D. 412), who translated it from an Indian original he had obtained at Pataliputra: lastly (Jan. 6, 1883), there is a cautious letter from Dr. Edkins on the views of Prof. Douglas and Mr. T. de Lacouperie with regard to the origin of the Yh King:—and by the same, Dec. 1882, a letter on the history of Opium in China. Besides the above are notices in the same Journal (Nov. 25), Mr. C. D. E. Fortnum's review of Baron Duvillier's "Origines de la Porcelaine en Europe" (though bearing but slightly on China):—(Jan. 20) an important letter from M. T. de Lacouperie on "Chinese and Akkadian Affinities," in reply to Dr. Edkins:—(April 7) a very good review by Dr. Legge of Dr. Chalmers' "Account of the Structure of Chinese Characters under the three hundred primary forms." We may add that (on Feb. 13) Mr. Colquhoun read to the Anthropological Institute a valuable paper "On the Aboriginal and other tribes of the Yunnan and the Shan country." From the *Revue Critique* (Nov. 6) we learn that M. Jametet has published in the 32nd vol. of the *Bibl. Orient. Elzévir*, "L'Encre de Chine, son histoire et sa fabrication," from an original Chinese work written by Chen-ki-souen, of Sou-tchéon, in A.D. 1398. In "Le Muséon," Tome i. No. 3, M. G. Barone has printed "Ja-z-Pam, la baton du Muet," the translation of a Chinese novel.

Reverting to Journals of Societies, it may be stated that in the J.R.A.S. Vol. XIV. Pt. 4, M. T. de Lacouperie has

printed the first portion of a paper on "The Oldest Book of the Chinese (the Yh-King) and its Authors," and the second portion and conclusion of it in Vol. XV. Part 2; and, in the same Part, Mr. Gardner has given "Chinese Laws and Customs":—Before the Society, too, on April 30, 1883, Prof. Beal has read a paper "On Two Geographical Sites named by Hiouen-Thsang in the Tenth Chapter of the Si-yu-Ki":—and M. T. de Lacouperie a paper "On the Shifting of the Cardinal Points, as an Illustration of the Chaldæo-Babylonian Culture borrowed by the early Chinese." In the *Journal of the North China Branch of R. A. S.*, vol. xvii. part 1, are papers by H. A. Giles. "On Chinese Composition";—by M. Hirth, "On the Hoppo-Book of 1753"; and, by the same, a Review of Gabelentz's *Chinesische Grammatik*.—In the *Trans. of the Asiat. Soc. of Japan*, vol. x. pt. 1, are papers by Dr. Edkins, "On a Chinese and Japanese Vocabulary of the Fifteenth Century," with notes on the above by Ernest Satow, Esq.—In the *Journal of the Straits Branch R. A. S.*, June, 1882, is a paper by Mr. Dodd on the "Probable origin of the Hill Tribes of Formosa," continued in the December number.

In the Z. D. M. G. xxxvi. 3, 4, Dr. W. Grube briefly notices Gabelentz's Grammar.

In the *Journal Asiatique* (Apr. Mai, Juin, 1882) M. Imbault-Huart publishes "Une Excursion à la ville de Song Kiang"; and "Le siège et la prise de Sou-Tcheou en 1863." In the *Indian Antiquary* (July) is a very important paper by Prof. Em. Forchhammer "On the Indo-Chinese Languages," which well illustrates the difficulty of the acquisition of tongues in which the tones play such an important part. In Oct. is a notice of the translation by Mr. W. W. Rockhill, M.R.A.S., from the Tibetan of "the Sutra in forty-two chapters," one of the Canonical Books of Buddhism. This Sutra has been twice translated before by Schiefner (1851) and L. Feer (1878), as, also, by Mr. Beal more than twenty years ago, in the *Journal*

of this Society. In Feb. is a useful paper by Dr. Kuhn on the oldest Aryan Element in the Sinhalese Vocabulary.

The following may be noted among books, etc., recently published or in course of publication:—The Six Scripts, a translation by L. C. Hopkins of the Preface to the Liu Shu Ku, a Dictionary by Tai T'ung:—Richthofen, F. v., China, vol. 2; Nordliche China:—Acheson, J., Index to Williams's "Syllabic Dictionary of the Chinese Language":—Michels, A. des, Tam tu Kinh ou le livre des Phrases de trois Caractères, avec le commentaire de Vu-o-ng-thân-thâng:—Barone, J., Z'ien-z-Wen Sue, De mille verborum libro à Cheu Him-S. (Printed at the Naples Polyglot Press):—Schlegel, G., Nederlandsch-Chineesch Woordenboek in het Tsang-Tsin Dialect, vol. iii.:—Chalmers, J., The Structure of the Chinese Characters under three hundred primary heads:—Nanjio, B., Catalogue of the Chinese Translation of the Buddhist Tripitaka:—Beal, Prof., Abstracts of four lectures on Buddhist Literature in China:—Cordier, H., La France en Chine au dix-huitième siècle:—Giles, H. A., Historic China and other Sketches:—Rosny, L. de, Les Peuples Orientaux connues des Anciens Chinois:—The "Fan Kwae" at Canton before Treaty days, by an Old Resident (W. C. Hunter):—Douglas, Prof., Le Ming's Marriage (an exposure of the Laws of Marriage in China), *Cornhill Magazine*:—Giles, H. A., A Chinese Cyclopædia (being a descriptive notice of the Yuen chien lei han, in 450 books, published in 1716), in *The Time*, the Chinese Recorder and Missionary Journal (a periodical of Foochow):—M. Cordier's great work *Bibliotheca Sinica* is progressing, and Tome 2de Fasc. 1 has just appeared.

In M. Cordier's *Revue de l'Extrême Orient*, No. 1, are the following papers referring to China:—Histoire des Etudes Chinoises—Notes pour servir à une Biographie de feu L'Archimandrite Palladius, p. 9:—Wylie, A., Ethnography of the Han Dynasty, translated from the How Han Shoo, p. 52:—Cordier, H., MSS. relatifs à la Chine (London),

p. 112:—Do., *La Presse Européenne en Chine*, p. 120:—*Traité entre La Russie et La Chine, concernant l'établissement de l'autorité du Gouvernement Chinois dans le pays d'Ili*, p. 129:—and Deveria, G., *Mode d'Estampage usité en Chine*, with a plate, p. 142. In No. 2, Deveria, G., *Examen de la Stael de Yen-tai. Dissertation sur les caractères d'écriture employés par les Tartares Sou-tchen*, with plates, p. 173:—Mr. Wylie continues his papers from Part I.:—and M. Cordier gives further notes on Chinese MSS. (Vienna), p. 310. In the *Mélanges*, Dr. Martin has a brief paper called *Interpretation des trois caractères composant le titre Si-yuen-lu*, p. 317:—There are, also, some brief reviews of books, chiefly by M. Cordier.

In No. 3 Dr. Martin continues his *Exposé des principaux passages contenues dans le Si-yuen-lu*, p. 335; and MM. Cordier and Wylie continue their previously noticed papers:—M. Cordier adds, too, a further notice of MSS. relating to China in the British Museum. In the "*Mélanges*" there is nothing of importance.

In the part of the "*Anecdota Oxoniensia*" just issued, Prof. F. Max Müller and Mr. Bunyiu Nanjio, M.R.A.S., have printed "*Sukhâvatî-Vyûha*, descriptive of the Sukhâvatî, the Land of Bliss," which ought, perhaps, rather to have been classified under the head of Sanskrit. The work contains two appendices. 1. The Text and Translation of Sanghavarman's Chinese Version of the Poetical portions of the Sukhâvatî-vyûha; and 2. The Sanskrit Text of the smaller Sukhâvatî-vyûha.—In the *Bull. Soc. Indo-Chin.* is a notice of G. Pauthier's *San Tsen King*, livre classique des trois caractères Wang peh heou, en Chinois et Français.

The two most important works on this part of the world recently published are—Mr. A. R. Colquhoun's "*Across Chrysê*," a narrative of a Journey of Exploration through the South China Border Lands, from Canton to Mandalay, in 2 vols.; and M. J. Moura's *Royaume de Cambodge*, in 2 vols.

with abundant and useful illustrations, though the engraving of them is rather rough. M. Abel des Michels has, also, published for the Écoles des Langues Orientales vivants, “Les Poèmes d’Annamhac vân Tiên ca Diên—texte en caractères figuratifs.”

Japan.—The number of new works on Japanese matters seems hardly to be so large as in some former years, but there is no lack of reviews and shorter papers, some of which may be noticed here. Thus in the *Athenæum* (June 10, 1882) is a brief review of W. G. Dixon’s *Land of the Morning*:—(July) of a very useful and comprehensive book by J. L. Bowes, entitled *Japanese Marks and Seals*; and (Sept.) of Mr. Kenchio Suyematz’s Japanese novel, *Genji Monogatari*. We learn further, incidentally, that the Japanese Government has determined on establishing public libraries in all the principal towns of the Empire. In the *North China Branch* of the R.A.S. xvii. 1, are Notes on the Geology of the neighbourhood of Nagasaki, by H. B. Guppy; and Notes on the South Coast of Saghalien, by G. C. Anderson:—In the *Trans. Asiatic Soc. of Japan* are Notes by J. M. Dixon, On Konodai and its Spots of Interest:—and by E. Satow, M.R.A.S., On the Early History of Printing in Japan. In the *Rev. de L’Extr. Orient*, No. 1, M. L. Metchnikoff prints *La Statistique des Sexes en Japon*:—and in *Muséon*, Tom. 2, No. 2, M. G. Barone gives a notice of Iasogami and Camicoto, a Japanese legend. We may add that the “*Chrysanthemum*” still flourishes, and prints many interesting articles about Japan. They are, however, too numerous to be quoted here.

Other miscellaneous papers are:—Duret, H., *L’Art Japonais* (*Gaz. d. Beaux Arts*, Aug. Oct.):—Maget, *Sur les Mœurs d. Japonais* (*Rev. d’Anthrop. t. 4*):—Pfizmaier, A., *Erörterungen u. aufklärungen über Aino* (*Sitz. Ber. Wien. Akad.*):—Do., *Werke aus d. Zeiten der Zwei-theilung Japans* (*ibid.*):—Rein, J. J., *Das Japanische Kunst-gewerbe* (*Mont.*

d. Orient, viii. 1, 2, 6, 7) :—Scheube, Bemerkungen über d. Nahrung d. Japaner (*ibid.* 10) :—Chamberlain, B. H., On two questions of Japanese Archæology (J.R.A.S. Vol. XV.).

Among printed books (some of them reprints from the Journals of Societies) may be mentioned, Pfizmaier, A., Erklärungen unbekannten und Schwieriger Japanischer Wörter :—Dixon, W. G., Land of the Morning :—Suyematz, K., M.R.A.S., Genji Monogatari, the most celebrated of the Classical Japanese Romances :—Hoffman, J. J., Japanese-English Dictionary, ed. by J. Serrurier, vol. i., 1 :—Liebscher, G., Japan's Landwirthschaftliche verhältnisse :—Metchnikoff, L., L'Empire Japonais (Impr. de l'Atsume Gusa) :—Satow, E. M., and Hawes, A. G. S., Handbook for Travellers in Central and Northern Japan :—Pfizmaier, A., Drei mystische Schriften Tojo-tomi Katsu-Tosi's :—and, also, in the Publications of the Roy. Inst. of Florence, three papers on Japanese subjects.

Further India and Malayo-Polynesia.—To “the Annales de l'Extreme Orient,” as on former occasions, we are indebted for the best account we can obtain of these Eastern countries, the information being the more valuable, as generally given by persons who are residents in the districts they describe. Thus, in July, 1882, we have a characteristic notice of the way whereby the French language was introduced into Japan :—Mr. Léon Feer reviews a work by M. Ad. F. de Fontpertuis, On China, Japan, and Cambodia, only a small part of which, however, he seems to have seen himself :—and a valuable paper is printed, entitled “Talents Militaires d' Haider Aly,” from unedited MS. in the Library at Nancy, of J. B. Thiriot, who claims to have been an eye-witness of many of the facts he describes in the campaign of 1780–2: the Chronicle deals chiefly with the political status of French Cochinchina. In the August number is a good review of M. Holle's “Tabel van oud- en nieuw-Indische Alphabetten,” by M. d'Estreys, the most important part of which is his classification of the varieties of the

ancient Kawi alphabet, together with those in use in Java from the eighth to fifteenth century. The later ones taken from Raffles and Cohen-Stuart are of much value, and the whole work is well worthy of careful study: the Memoir of M. Thiriot is also continued:—It is further stated, that in the Soc. de Géogr. de France here quoted is an interesting account of the Journey of Dr. Neis, in Indo-China, to the east of Mekong; and that in the Bull. de l'Inst. Roy. des Indes Néerlandaises, M. Kern gives a valuable paper, “Sur la langue des Negritos et des îles Philippines.”

In Sept., is an article on “Manuscripts Atchinois,” a subject deserving further examination. M. van den Langen, who goes out with the warm support of Dr. Veth, has already, we hear, found several Atchinese documents, which it is to be hoped he may be able to publish; and as a commencement, is preparing a “Dictionnaire Atchinois,” to which we wish all success. M. le Comte G. d’Alviella gives a pleasant sketch of a journey in the “Royaume de Sikkim”; M. de Goeje writes “Le Japon connu des Arabes”:—we have, also, the text of the Treaty between the United States and Corea:—and a report of M. Victor de Lesseps on the Suez Canal. In the “Chronique,” M. d’Estrey gives vent to certain recent views on the subject of Madagascar and its future. To the October number, M. Eugène Simon contributes a long article on “La Cité Chinoise,” which is worthy of perusal; and M. D’Alviella continues his notes “Sur le Royaume de Sikkim.” We learn, further, that MM. Deloncle and Harmand have *satisfied themselves* as to the possibility of cutting the long projected Canal through the Isthmus of Kra: and that the King of Siam will not grant the concession needed for this purpose to any one but M. de Lesseps. In the November number is a long paper on “L’Art Médical en Chine,” of little value, except as a curiosity. It was well enough known, years ago, that anything like Medical Science was unknown in the “Middle Kingdom.” The *Chronique* is, as usual, too political for these pages.

At the Soc. de Géog. Comm. de France, M. Deloncle has given some valuable details of his journey with Dr. Harmand in the Isthmus of Kra. He states that the canal need not be more than thirty kilos—about twenty miles—long. At the Congress of the various French Geographical Societies (at Bordeaux, Sept. 6th–11th, 1882) many objects of interest were shown in the “Exposition Géographique”—such as a copy of the Koran, written with a *stylus* on bamboo; a collection of objects procured by M. Guimet; the fine mineralogical collections of M. Lemaire from New Caledonia, illustrative of his pedestrian tour through that island; with magnificent plans of the ancient temple of Angkor Wat in Camboge, and specimens of Khmer architecture. From the same paper we hear that M. Wittt, an officer in the service of the “North Borneo Co.,” and some of the people with him, have been slain by the “head-hunters” of that island—another instance of a careless trust in or misappreciation of savages.

In the December number the paper on Chinese Medicine is brought to a close. M. le Baron Ernouf gives a brief account of Baghdad and its neighbourhood, especially of Ctesiphon, of which an engraving is given. In the “Chronique” special reference is made to Mr. Colquhoun’s recent journey from Canton to Rangoon, and to the inferences drawn from the facts he details, in an article in the “Times”; and a brief sketch is given of M. de Ujfalvy’s Travels in Central Asia, and of his Ethnographical and Anthropological observations of the people of Kashmir, Dardistan, Jaghistan, Chitral, and Kafirstan. The system of Polyandria appears to be in full force in some parts of Tibet.

In the number for January, 1883, is a short sketch of “L’Instruction publique en Cochinchine,” of, as the writer calls it, “une Colonie sans Colons.” Other articles are—a valuable one entitled “La Route de l’Inde par voie de Terre”; “Progrès de Génie Civil en Chine”; with a very interesting discussion of how the Yellow River and Yangtze-

Kiang can be made passable by railway trains, so as to connect Peking and Tient-sin with (ultimately) Canton; and, generally, of the system which will no doubt, sooner or later, cover the whole of China with a net-work of railways. M. P. A. Van der Lith, Prof. at Law at Leyden, gives a valuable paper entitled "*Questions de Droit Coloniale.*" Before the Soc. Acad. Indo-Chinoise, M. Millot has sketched the course of events in Tongkin: the text is also given of a speech of Mr. Colquhoun at Simla, chiefly on the nature of the Chinese government of the provinces to the N. and N.W. of Tongkin.

In the Feb. number is "*Le Congo et les droits de Portugal,*" the translation of a long article in the "*Correspondencia de Portugal.*" Mr. A. H. Keane commences an exhaustive essay, "*Rapports Ethnologiques et Linguistiques des Races Indo-Chinoises et Indo-Pacifiques*": in which, with great brevity, he passes under review all the theories that have hitherto been advanced on these subjects. In this essay, Mr. Keane suggests the title of "*Indo-Pacific*" for the misleading "*Malayo-Polynesian,*" and the adoption, for "*Polynesian,*" of a new name, "*Sawaiori*" (compounded of the first syllable of Samoa, the second of Hawai, and the last two of Maori), as an Ethnical expression embracing many distinct fundamental types. In the "*Chronique,*" further details are given with reference to the controversy between France and Portugal as to their respective claims to various portions of the West Coast of Africa, and to the action of what our neighbours call the "*Traité Brazza-Mákoko.*" Holland, too, we learn, claims, though somewhat tardily, the mouths of the Congo, though it is clear that, in this matter, the demands of Portugal are far superior to those of any other nation.

The number for March contains a brief notice by M. Vinson of the "*Réligion des Populations isolées de l'Inde;*" and a continuation of Mr. A. H. Keane's valuable essay:—in the "*Chronique*" are some further details of Dr. Neis's Travels in Cochin-China. In the Number for April is a remarkable

article on the progress of British Burma, especially in the matter of the cultivation of rice, itself, it would appear, a word of distinctly Indian origin; and by M. Sabine Méa, "Sur les Monuments de l'Inde." M. Meignon gives an account of a land Journey from Paris to Peking, which, at all events, shows that the popular views of Siberia, especially as to its agricultural possibilities, differ widely from the reality. In the "Chronique," the Tongkin question naturally takes the first place. Under the head of Siam, it is stated that M. de Lesseps has sent some French engineers to examine the Isthmus of Kra, with the object of cutting the long-talked-of Canal, and that these officers have been well received by the Siamese authorities. In the part for May, are good sketches of "Les Possessions Portugaises dans l'Extrême Orient," and of the plan of the "Exposition Nationale de Calcutta," which is to be held there next winter. In the "Chronique," details are given of the course it is hoped that the French Government will pursue with regard to the Annamite King, Tuduc. Naturally, too, the annexation of New Guinea is a sore subject. There is also, a report of some importance on the islands of the Pacific destined at present, or in the early future, to be French penal settlements; and a notice of the coronation of the King and Queen of the Sandwich Islands.

In connexion with the "Extreme East" must be noticed the publication recently of the first volume of the "Bulletin de la Société Académique Indo-Chinoise," which contains a large number of valuable papers bearing on this subject. As it is not possible to find space to analyse each of the articles, a list is given of the most important of them which future students can consult in the volume itself. They are as follows: By M. de St. Arroman, *Missions Scientifiques dans l'Inde Française, en Indo-Chine et en Malaise*, with a valuable list of the "Missions" themselves, p. 1:—Lorgéou, E., *Remarque relative au Vocabulaire des Mou-Hona*, p. 28:—M. Ravel, *De l'Inde Française de la Legislation*, p. 60:—Genin, E.,

Documents inédites sur l'Histoire et la Géographie de l'Inde Française, Voyage de M. Thiriot, p. 69:—Bouillevatet, M. l'Abbé, Les premiers Princes de l'Annam d'après les Annales Indigènes, p. 108:—Milot, E., La France dans l'Extrême Orient et la concession Française de Chang-Hai, p. 118:—Delavaud, L., Les Progrès des Études Indo-Chinoises dans la Charente-Inférieure (Rochefort), p. 140:—Blumentritt, Prof. F., Organization Communale des Philippines, trad. du "Globus" par A. Hugot, p. 145:—Caramâque, F., La Province de Zambales de l'île de Luçon. trad. par A. W. Taylor, p. 155:—Dilhan, A., and Taylor, A. W., Mémoire sur l'Archipel de Jolo, p. 170:—Cantova, A., Découverte des Iles Garbanzos (Carolines), transl. by E. Gibert and A. W. Taylor, p. 218:—Soltau, H., M.R.A.S., De Bahmo à Hankow, transl. by E. Milot, p. 229.

There then follow some good notices of books or essays, such as M. Léon Feer's of Vasconcellos's *Relações entre o Oriente et o Occidente*, p. 235; M. Croizier's of M. Lorgéou's *Suphasit Siamois*, of Coelho's *Dialectos Romanicos na Africa*, and of M. Myners d'Estrey's *Les Langues de Celebes d'après Dr. B. F. Matthes*, pp. 238-243. M. Aristide Marré notices M. Bading's *Spraakkunst des Maleische Taal*, p. 243. Other important works are—Prof. Kern's *Oude Bouwwerken in Kam-bodia*, p. 247:—Gordon, R., *Report on the Irawaddy River*, p. 284:—papers by MM. Boulangier et Fenal, entitled respectively, *Débit du Mé-Kong* and *Le Bassin de Camboge*, 291-294:—and others of the same class too many in number, and too technical to be given here in further detail: some, too, are essentially scientific. We may, however, note specially, *Le Commerce de Yunnan par la voie du Fleuve Rouge*, by C. de Kergaradec, p. 315:—Hamont, T., *Un Essai d'Empire Français dans l'Inde au xviii^e siècle*, a fresh contribution to the history of Duplex, p. 339:—the "Mélanges" are full of interesting matter, but can only be referred to here; it may, however, be stated that, among

them, will be found valuable information on Tongkin, Siam, Tibet, Birma, the Philippine Islands, Borneo, etc. The "Société Académique" may well be congratulated on the excellence and completeness of its first year's "Bulletin."

It should be added that M. Cordier has brought out at least three numbers of his *Revue de l'Extrême Orient*, from January to September, 1882. In the first are the following general papers:—Documents inédites pour servir à l'histoire Ecclésiastique de l'Extrême Orient, 1. Correspondence du père Fouquet avec le Cardinal Gualterio, p. 16:—Moura, M., Phnom-Penh a Pursat, en compagnie du Roi de Cambodge et de sa cour, p. 84. In the second, MM. Cordier and Moura continue the papers begun in the first. In the third, under the head of Documents Ecclesiastiques, M. Cordier publishes *Le Chinois de S. Fouquet, d'après un MS. No. 169, de l'Inventaire des Papiers du Duc de St. Simon*. To these may be added, Bastian, A., *Völker Stämme am Brahmaputra und verwandschaftliche Nachbarn*, Berl. 1883.

Among miscellaneous books, may be mentioned for *Burma*, printed at Rangoon, *Damasetkya Jaya*, edited by Moungh Ywet:—*Datoo Wiektaya Pakeiwaaka Seinta* (a work on Medicine):—*Heetawpadetha and other Stories* (Hitopadesa, etc.), ed. Moungh Bwa:—*Kandapooya Woottoo* (an allegorical story) ed. S. Moungh Tha Zan:—*Paramatta Maydaneekyan* (Buddhist Metaphysics), edited by Ko Oung Shay:—and *Sadoodamathaya and Thanwaya Pwo* (two Burmese Epics), edited by Thaya. For the *Philippines*, *Vidad y Soler, S., Memoria sobre los montes de Filipinas*, is useful as giving lists of books and pamphlets relating to the Far East.

Miscellaneous Indian or Oriental.—Under this head it is usual to place references to papers or books which do not so readily fall under any of the previous categories. Thus, in the *Athenæum* (June 10, 1882) is a very important summary of the work done by the Indian Survey; and, July 22, of the

Manual of the Geology of by V. Ball :—of Mem. of the Geolog. Survey :—of Palæontologia Indica :—and of Records of the Geol. Survey :—and, in Oct. 7, of Mr. H. F. Blanford's Indian Meteorological Memoirs, one of the most valuable contributions to "Meteorological Science" that has ever been printed. The later papers of the Geological Survey of India have an especial value, for the scientific account given in them of the Coal-fields, not only of India Proper, but of Assam and Burmah—see, also, Dec. 30, p. 903 :—(June 17) a good notice of the Rev. J. Wood's Translation of M. Barth's work "On the Religions of India" :—(June 24) Do., of Mr. Toru Dutt's Ancient Ballads and Legends of Hindostan :—*ibid.*, of Mr. W. T. Thiselton Dyer's report to the Linnean Society "On the Caoutchouc-yielding Apocynaceæ of Malaya and Tropical Africa" :—(July 1) of E. A. Floyer's Unexplored Baluchistan :—(Aug. 19) of Mr. J. W. McCrindle, M.R.A.S., Ancient India as described by Ctesias the Knidian, with some judicious suggestions :—and (Aug. 26) of the admirable Handbook of the Bengal Presidency, by Mr. E. B. Eastwick, M.R.A.S.

There is, also (Sept. 30), an excellent review of Mr. E. Thomas's "Indian Balhará and the Arabian Intercourse with India in the Ninth and following Centuries," by one who is, perhaps, better able than any one else to appreciate fully such research :—In Oct. 28, Miss Collett (the Editor of the Brahmo Year-book), in a very interesting letter, expresses the hope that certain missing letters and papers of Rammohun Roy (who died in 1833) may yet be discovered. In Nov. 4 is a notice of Prof. Kern's Buddhismus und seine Geschichte in Indien, translated from the Dutch by Dr. H. Jacobi, a work, the learning of which is unquestioned, but which, for all that, will certainly not be generally accepted by Buddhist scholars, either here or in India; thus, Prof. Kern concludes that Buddha must be the Sun-hero, and his disciples, therefore, the planets and other heavenly bodies! Notices are also given of the beautiful work on "Eastern Carpets," by Mr. Vincent Robin-

son, M.R.A.S., and Sir George Birdwood, K.C.S.I.:—of an interesting meeting of the Native Ladies Association at Poona, in a letter from Prof. Monier Williams (Nov. 18):—In Dec. 2 there is a pleasant review of Sir M. MacGregor's Wanderings in Baluchistan:—and (Dec. 16) of a lecture given in Persian, at the Calcutta Madressah, on the subject of Muhammedan Education, by one of the leading Ulemas of Cairo. In the same number is a report of the publications issued and registered in the several Provinces of India, which amount to about 5310. In the returns from Madras we notice two metrical translations in Telugu of the "Merchant of Venice," and adaptations of the "Comedy of Errors" and of the "Winter's Tale." There is, also (Dec. 30), an appreciative review of Mr. H. B. Rowney's Wild Tribes of India.

In Jan. 6, 1883, is a sketch of Dr. W. W. Hunter's Brief History of the Indian People, a condensation of the larger article in the "Imperial Gazetteer of India," which has itself been reproduced as a separate volume, with the title of "The Indian Empire." Probably this volume is intended as a school book. In Feb. 20 is an interesting article (from the Allahabad *Pioneer*), giving details of Mr. Andrew Dalglish's recent visit to Kashgar and Eastern Turkestan, which seems to have been very successful:—in March 10, a good review of Mr. Bosworth Smith's Life of Lord Lawrence, and a note (p. 315) of certain tribes in Orissa, who worship the Queen as a Goddess, though not under the title of Kaisar-i-Hind:—In April 21 is a Sketch of Prof. Haeckel's Visit to Ceylon; and, May 12, of The Golden Chersonese and the way thither, by Mrs. Bishop (née Isabella Bird). *Inter alia*, we may also record a notice of Mr. Stanford's Compendium of Geography and Travel (Asia), which has been brought out under the official editing of Sir Richard Temple and Mr. A. H. Keane, who, however, for some reason or other, do not refer to the standard work on China by the Baron von Richtshofen.

In the *Academy* (June 17, 1882), Mr. A. H. Keane reviews

Mr. Floyer's Unexplored Baluchistan ; and the late Dr. Burnell contributes a letter "On the Origin of the Indian Alphabets," in which he gives the substance of one from Prof. Sayce on some unknown characters on an Assyrian Contract Tablet. These Dr. Burnell thought tended to show a foreign origin of the Indian Alphabets. In July 8, Dr. Morris reviews The Vinaya Texts of the "Sacred Books of the East," translated by MM. Davids and Oldenberg ; and, in August 5, Prof. F. Max Müller reviews the new edition of Sir George Cox's Mythology of the Aryan Nations, originally published in 1870. In the new edition, an attempt is made to trace the influence of Semitic Theology on the Theology and Religion of the Greeks. Apropos of what may perhaps be called the lighter labours of mature scholars, Prof. Müller asks the pertinent question, "Why have not Prof. Benfey's numerous articles scattered about in Journals and the Transactions of Academies, the richest *Thesaurus* ever left behind by any Sanskrit scholar, been collected and published so as to remain accessible to future generations?"

In August 12, Mr. E. Vesey Westmacott communicates a note on the mode of casting adopted by Indian *falsificatori*. In August 26, Mr. Rhys Davids summarizes the more important recently published works on Buddhism—a subject now surely occupying a somewhat inordinate space in the Eastern literature of the day, to wit, Der Buddhismus of Prof. Bastian, the Mahavastu of M. Sénart, the Lalita Vistara, and Buddha, sein Leben, seine Lehre, und seine Gemeinde of Dr. H. Oldenberg. Mr. Monkhouse, also, calls attention to the beautiful work by Mr. Robinson on "Indian Carpets," and to the masterly drawing of some of them by Miss Julia Robinson. In September, Dr. Morris furnishes a valuable review of Mr. Ralston's Tibetan Tales, [a translation from F. Anton v. Schiefner, with much additional matter of his own]. In October is a very important letter from Dr. A. Bastian in partial reply to Mr. Davids' review of his

“Buddhismus” just noticed, in which he gives a fuller explanation of the object of his book. In November, Mr. J. S. Cotton reviews Sir Alfred Lyall’s Asiatic Studies, and in December, Mr. A. H. Keane notices Major-General Sir C. M. Macgregor’s Wanderings in Baluchistan. In January 13, are sketches of Mr. Cumberlege’s account of the Bunjarrah Class; of Prof. P. J. Veth’s work on Java; and by Mr. Markham of Wessel v. Gorkom’s Hand-book of Chinchona Cultivation. In January 20, by Mr. H. G. Keene of Colonel Malleeson’s Founders of the Indian Empire, Lord Clive:—in Feb. 24, by the same, a thoroughly appreciative, though brief, review of the life of Lord Lawrence; and, also, by the same, a good notice of Col. Malleeson’s Decisive Battles of India. In April 21, Mr. Vincent Ball, so well known for his Geological labours in India, gives a curious paper on “The identification of the Pygmies, the Martikhora, the Griffins and the Dikarion of Ctesias.” In May 12, is an excellent review by Mr. Colborne Baber (no one so competent as he to do this) of Mr. A. R. Colquhoun’s “Across Chrysê;” a notice by Mr. J. S. Cotton of Mr. H. E. Busteed’s “Echoes from Old Calcutta,” and, to Ethnologists at least, we believe to many besides, an important paper by Mr. A. H. Keane, on “A Classification of the Races of Mankind”—the outline, we believe, of a future work on this subject.

In the *Revue Critique* (July 31) is a brief but good notice of the first portion of the Transactions of the Berlin Congress; and, in August 21, of the Archives de l’Orient Latin, the publication of a Society, we fear, but little known in England—yet of direct value to any one who cares to study in detail the History of the Crusaders. In Nov. 13, M. Barth gives an excellent review of M. Windisch’s *Der Griechische Einfluss im Indische Dramä* (which was originally read at the Berlin Congress), a work which it must be confessed is more ingenious than convincing—and, in January 1, 1883, by the same eminent scholar, a notice of Dr. Holtzmann’s “Ueber

das Alte Indische Epos," in which a theory is put forward which, in spite of the learning with which it is supported, will hardly, we should think, be generally approved. Lastly, in March 26, M. Barth follows up previous reviews by him of Dr. W. W. Hunter's Statistical Account of Bengal (see *Revue Critique*, Sept. 20, 27, Oct. 4, 1880), by a brief notice of the Imperial Gazetteer of India. M. Barth points out, with regret, what has, indeed, been remarked by other writers, that while the Nicobars, Laccadives and Aden, are fully described, Ceylon, as under the Colonial Office, though the most important island, adjoining India, is left unrecorded. In the *Journal d. Savants* (April and May), M. Renan reviewed very fully M. Senart's various recent Buddhist works, including the Inscriptions of Piyadasi, and M. Bergaigne's Inscript. of Cambogia. As individual works may be noted Prof. F. Max Müller's "India, what can it teach us?" and R. Mitra's "Nepalese Buddhist Literature."

Egyptology.—The work of the last year, on this important branch of research, has not been inferior to that of the preceding ones, nor has the war of last autumn interfered as much with scientific excavations and studies on the spot as might have been expected. Much new ground has been broken up, in places, too, not anticipated, and a large number of valuable memoirs and letters have been read to, and printed in the Journals of, the different Societies who devote themselves to matters Egyptian.

Thus, in the Proceedings of the Society of Biblical Archaeology (June) we find that Mr. Villiers Stuart, M.P., exhibited a large coloured drawing of the funereal canopy of Queen Isi-em-Kheb (the mother-in-law of Shishak), which had been recently discovered at Thebes; and that Mr. Lund read a paper entitled the "Epoch of Joseph." There is also a note by Prof. Lieblein on "The Phœnicians in Egypt," and a valuable communication, with two Plates, by Mr. Cope White-

house "On Lake Moeris, and his recent Explorations in the Desert near the Fayoum," a paper which has thrown altogether new light on the geography of this part of Egypt. These researches have also been well commented on in the Bulletin of the American Geographical Society, and before the Soc. Khediv. de Géographie (See *Egyptian Gazette*, April 25, 1883). In Nov. 7, M. E. Révillout gives a paper, "On a Demotic Papyrus containing the Malediction of an Egyptian Mother on her son embracing Christianity":—Mr. Le Page Renouf, in a letter to the Secretary, discusses, at some length, Dr. Brugsch's Theory of the Exodus:—Dr. Birch (Feb. 6) gives an account of a Hieratic Inscription (painted on a board) belonging to Mr. McCullum, the duplicate of one published by M. Maspero in the *Rec. d. Travaux*, vol. ii. p. 13 (1880). Both these are now known to have come from Deir-el-Bahâri. Mr. Villiers Stuart (April 3) exhibited two flint implements found by him in a recent excavation between Gizeh and Abusir, and stated that he had been able to lay bare the alabaster walls of a temple, on the floor of which were still standing nine large basins of the same material, each fifteen feet in circumference, and surrounded by twenty-four pilasters. One of these "implements" is exactly like those in obsidian from Mexico at the British Museum. Dr. Birch, at the same meeting, gave an interesting account of some Canopic vases from Tel. Basta, belonging to Mr. F. G. Hilton-Price, F.S.A.

From the *Athenæum* we learn (June 10) that Mr. Loftie exhibited, at the Archæol. Institute, a fine bracelet of thick gold wire from Sakhâra, together with an earthenware vase bearing the name of Necho (about B.C. 600), and Capt. Hoare, an Egyptian statuette of great beauty; and, further, that the Brit. Mus. has recently acquired a porcelain staff, bearing the name of Khuenatem, a monarch of the XVII. Dynasty, from Tel-al-Amarna. A very large number of papers, letters, etc., have been published in this Journal, some of which may

be noticed here. Thus there is a notice (July 8) of T. Birt's "Antike buchwesen in seinen verhältniss zur literatur," which contains some ingenious speculations as to the influence both in verse and in prose, by the material size of the Papyrus roll, on which these were first written. In Aug. 19 there is an excellent account of Mr. Villiers Stuart's book "The funeral tent of an Egyptian Queen," on which subject he read a paper, as already noticed, to the Bibl. Arch. Soc. In Sept. 30, is a review of Mr. C. W. King's "Plutarch's Morals," in which reference is made to a suggestion by Mr. King which seems worthy of record. Noticing that the Priests of Egypt call the country, which has a very black soil, "Chemia," and, at the same time, apply the same name to the pupil of the eye, Mr. King asks, "Is this the long-sought-for root of 'Cameo'?" The *niccolo* was distinguished by the Romans as "Ægyptilla," and compared by them to the eye.

At a meeting of the Brit. Archæol. Assoc. (Nov. 15) we learn that Mr. Myers exhibited a fine collection of Egyptian Antiquities of early date, some of the fragments of fictile ware bearing receipts for the delivery of wine to the garrison at Thebes; and (Dec. 16) at a meeting of the same Society Mr. W. M. F. Petrie exhibited a collection of Egyptian bricks from the Eighth Dynasty to Arab times. These bricks have an historical value from the fact that while they are uniform all over Egypt for the same epoch, they regularly decrease in size in successive periods. In the same number are brief notices of Mr. R. S. Poole's "Cities of Egypt," Miss Whately's "Scenes from Life in Cairo" and of the Baron de Malortie's "Native Rulers and Foreign Interference." We also learn that Dr. Schweinfurth has completed a Geological Map of Upper Egypt, based chiefly on his own observations, and that it has been sent to Berlin to be engraved. There is, also, (March 5) a valuable paper by Mr S. L. Poole "On the preservation of the monuments of Cairo"; and a second letter on the same subject in March

12: in April 7, the same writer gives a very interesting account of a personal visit to M. Naville's excavations at Pithom, with abundant notices of his work and its grand results, as furnished to him by M. Naville himself.

In the *Academy*, as usual, much attention has been given to Egyptian researches, and those who are interested in them have to thank the indefatigable Miss Edwards for more than a dozen communications on a subject she may well be said to have made her own. For convenience sake we shall take these in the order of date. Thus (July 1), she gives from the *Journal de Genève* of June 22, the substance of an account by M. Naville of the present condition of the ruins of Tanis (Zoan), which he had recently visited:—in July 8, she reviews M. Maspero's *Les Contes populaires de l'Égypte ancienne*, some of which have already been printed:—in the same number is the substance of a paper by M. Lund, with a note on it by Miss Edwards (see also July 15):—in July 22 she reviews Mr. J. Villiers Stuart's "Funeral Tent of an Egyptian Queen," or, as she thinks it ought rather to be called, "an heraldic pall or canopy":—in Aug. 19, she gives the translation of a note from M. Rhoné, giving an account of M. Maspero during the Egyptian troubles of last summer:—in Aug. 26 she announces her discovery of the Sepulchral vases (Canopic jars) of Pinotem I., the Second Priest-King of the Her-Hor Dynasty, whose mummy was found in the famous pit at Deir-el-Bahâri:—and, in Sept. 2, she reviews Lord Bute's translation of the Coptic morning service, Comm. Gorrings's "Egyptian Obelisks," M. Rhoné's "Auguste Mariette," M. E. Deseille's "Les débuts de Mariette-Pasha," and Miss E. C. Hope-Edwardes's "Eau de Nil."

In Sept. 23 she describes some valuable additions to the Boulaq Museum, viz. the flower-wreaths of some of the Royal Mummies from Deir-el-Behâri, most of the flowers being as well preserved as in a "Hortus Siccus." Dr. Schweinfurth has arranged them, and illustrated them by modern examples

of the same flowers and plants : there is a further letter on this subject, in Nov. 18 :—in Nov. 4 a second notice is given of the discovery of Canopic vases from Deir el Bahâri, this time of a Princess Nasikhonsi. These, like the former, belong to Mr. McCullum :—in Dec. 2 she gives a spirited review of Mr. R. S. Poole's "Cities of Egypt" : and, Dec. 23, of Mr. R. A. Proctor's "The Great Pyramid," to which Mr. Proctor partially replies on Dec. 30 :—in Feb. 17, 1883, is an excellent review by the same writer of MM. Perrot and Chipiez's "Histoire de l'Art dans l'Antiquité, l'Egypte" (which has been translated into English by Mr. Walter Armstrong ; and in March 10 she gives valuable extracts from letters written by M. Naville to his family in Geneva. To March 24 she contributes a few "Notes from Upper Egypt" :—in March 31 she gives brief reviews of the Origin and Significance of the Great Pyramid by Mr. Staniland Wake ; of P. Pierret's *Le Livre des Morts des Anciens Egyptiens* ; of Dr. Karl Piehl's *Dictionnaire du Papyrus Harris* ; of M. Charmes's *Five Months at Cairo and in Lower Egypt* ; of Miss Whately's *Scenes from Life in Egypt* ; and of Mr. J. Baker Greene's *Hebrew Migration from Egypt*. To this last Mr. Greene replies (in April 28). Lastly, Miss Edwards gives the substance of a letter from M. Maspero, with very interesting details of the work he has accomplished in Upper Egypt during his spring campaign.

Of other papers in the same Journal, the following may be quoted : a brief notice (Sept. 23) of Mr. Ballingal's Translation of Prof. Tiele's "History of the Egyptian Religion" ; a notice that Mr. Flinders Petrie has given a lecture (Feb. 8, 1883) On the Arts of Ancient Egypt before the Society for the Encouragement of the Fine Arts. Mr. R. S. Poole has contributed five valuable papers, On the Progress of Discovery in Egypt (Feb. 24, March 3, 10 and 17, and April 7), in which the results of M. Naville's remarkable researches are recorded almost in the words of the explorer himself.

Lastly, Rogers Bey has given (March 24) a short account of Early Arab Monuments in Cairo.

Before the *Acad. des Inscriptions* (Sept. 15), M. Delaunay has read a paper by M. Amélineau "Sur le Papyrus Gnostique de Bruce" (in Coptic), which is in the Bodl. Library, though in a bad state of preservation. M. Amélineau has recognized two Gnostic works, which were, apparently, known to Clemens Alexandrinus; and M. Maspero gives an account of his recent Excavations (Sept. 22), and (Oct. 13) a report on the labours of the "Ecole Française" at Cairo. On Dec. 29, M. Gaston Paris communicated a note from M. Maspero, On a Papyrus at Turin of the Twentieth Dynasty, in which the writer recognizes a primitive version of the Fable of the Members of the Body and the Stomach, and, on March 9, 1883, M. Miller gave an account of a Trilingual Decree (Hierogl. Demot. and Greek) found at Canopus, of which M. Maspero had sent him a photograph. A similar decree was found some years ago, and has been published by Lepsius and others. In the *Revue Critique* (Aug. 7) M. Decharme reviews at great length the first volume (on Egypt) of the *Histoire de l'Art dans l'Antiquité* by MM. Perrot et Chipiez. In the *Journ. d. Savants*, M. Daresté writes on *Les Papyrus Gréco-Egyptiens*, and M. Miller on the *Nouveau Exemplaire du Decret de Canope*.

In *Muséon*, vol. i. part 1 and 4, M. Piehl writes, *Sur la Dictionnaire Hieroglyphique de Brugsch*; in part 2, M. Robiou notices M. Piehl's "*Petites Etudes Egyptologiques*," and M. Piehl, Maspero's *Mastabas de l'ancien Empire*, and M. Robiou, *Revue Egyptologique*, Ann. 1^{re}. In Tome ii. part 1, M. Piehl notices the *Revue Egyptologique* for 1881-2, and in Tome ii. No. 2, deals with "*Questions d'Histoire Egyptienne*."

Among books or papers issued during the present year is Part 4 of the 2nd year of the "*Revue Egyptologique*" under the editorship of MM. Brugsch and Revillout and the late M. Chabas. It contains a report by M. Revillout giving the substance of the papers read before the Congress at Berlin,

the writers or readers being MM. Brugsch-Pasha, E. Naville, Lieblein, Stern, Golénischeff, Maspero, Wiedemann, Krall, Baillet, and Mgr. Bsciai. Among other books may be noted, *Aegyptische Mon. d. Nederl. Mus. Afl.* 28; Amici, C., *Dictionnaire des villes, etc., de l'Egypte*; Berend, W. B., *Principaux Mons. du Mus. Egypt. de Florence*, 1^e part^e; Brugsch, H., *Hieroglyph. Demotisches Wörterbuch*, Band. 7 (Schlusse); Ebers, G., *Egypt descriptive, etc.* (Cassell's ed.). vol. ii.; Gorringer, H. H., *Egyptian Obelisks* (New York); Hommel, F., *Die Vor-Semitischen Kulturen in Aegypt u. Babylon*; Lanzone, R. V., *Diccionario di Mitologia Egizia*; Lauth, F. J., *Die Aegyptische Chronologie gegenüber d. hist. Kritik d. A. v. Gutschmidt*; Lepsius, R., *Wandgemälde, d. Aegypt. Alterthum in Königl. Museen*; Poole, R. S., *Cities of Egypt*; and Stuart Villiers, the *Funeral Tent of an Egyptian Queen*.

Zend, Pahlavi, and Persian.—In the *Athenæum* (Dec. 9) is a good notice of Miss Helen Zimmern's *Epic of Kings*—Stories re-told from Firdusi. We also learn that Mr. Le Strange is completing the *English-Persian Dictionary* which Prof. Palmer left unfinished; that the well-known Zend scholar, Dr. Karl Geldner, has in preparation a revised edition of the *Zendavesta*, which is to be issued in three parts by the Imperial Academy of Vienna; and that the success of Mr. Wollaston's recently published "*English-Persian Dictionary*" has been sufficient to induce him to undertake a more comprehensive work on the same general plan. We hear also from the *Ferhan*, the *Journal of Isfahan*, that a college, which was completed last year by Government aid, is now in working order, the Professors being either Europeans, or Persians who have graduated in Europe. In the *Academy* (June 12) is a brief notice of the late Prof. Palmer's *Simplified Grammars of Hindustani, Persian, and Arabic*, the idea of which was probably a good one, but it may be well doubted if, in practice,

even the Arabic one will answer the purpose its learned compiler had in view (see also a fuller review by Mr. E. L. Brandreth in Aug. 5): and, in the same number, of Mr. Wollaston's English-Persian Dictionary:—In Aug. 5, of Prof. Geldner's "Studien zum Avesta," of which the first part consists of contributions towards a Zend Dictionary. In Sept. 9, Mr. A. H. Keane gives an effective review of Mr. E. Stack's "Six Months in Persia." In Nov. 4, is a brief notice of Dr. Geiger's valuable work, the "Ost-Irânische Kultur im Alterthum"; and Nov. 25, Mr. S. L. Poole gives a good account of Miss Zimmern's clever "Epic of Kings," and appraises at their just value M. Alma Tadema's two etchings, which are no excuse "for the ungainly size of the volume" they can hardly be said to adorn.

In the Trans. of the D.M.G. xxxvi. 2, M. J. de Goeje prints a paper entitled Die Persischen Bruchzahlen bei Belâdhorî; in xxxv. 3, 4, Prof. H. Ethé has a paper, Auswahl aus Nâsir Chasrau's Kaşiden; M. Chr. Bartolomae continues his Beiträge zur Kenntniss der Avesta; Prof. Spiegel writes Zur Text-Kritik der Avesta; C. de Harlez gives "Etudes Avestiques," a paper which he says was written before he had seen M. Geiger's last volume; and Mr. Rehatsek, under the title of "Orientalische Rustungs-stücke Gehörnte Pickel-haube Arm-schiene und Schild," gives a very interesting notice (with an admirably executed plate) of a helmet, armlets, and shield of very beautiful workmanship. On one of the armlets is the name of Shâh Abbâs, who came to the throne A.D. 1587. This piece of work is, therefore, nearly 300 years old. In xxxvii. 1, Dr. F. Teufel writes on Shâh Tahmâsp I. und seine Denkwürdigkeiten.

In the *Revue Critique*, for Nov. 27, M. Fagnan gives a full and careful review of the *second* volume of the "Catalogue of the Persian MSS. in the British Museum," which has been drawn up by M. Charles Rieu, the learned Keeper of the Oriental MSS. in that building. This volume contains an account of

1128 MSS. of Science, Poetry, Philology, and Belles-Lettres. There will be a third volume, to comprise the latest acquisitions. In March 19, M. Barbier de Meynard praises highly the "Vazir of Lankurân," adding "toutes les raisons, je l'espère, engageront les deux Orientalistes Anglais à poursuivre une entreprise dont le debut est aussi heureux." A short previous notice had been given of this little book in the "Chronique" of the R.C., Dec. 25, 1882. From the "Chronique" of April 2, we learn that M. Pertsch has discovered among the papers of the late F. Rückert a translation into verse of the Bostân of Sadi, which shows an extensive philological knowledge of the poet's writings. It has been just published at Leipzig, under the title of "Saadis Bostan aus dem Pers. übersetzt."

In the *Muséon*, Tome i. part 1, Mr. E. W. West describes Un MS. inexploré du Farhang Sassanide; and M. Emile de Dillon notices Vüllers's Firdusii Liber Regum, Tome i. ii. iii. parts 1 and 2: in part 2, Prof. Spiegel has a paper entitled La Vocabulaire de l'unité linguistique Aryaque, à propos du Dictionnaire comparatif des langues Indo-Germaniques par Fick; and C. D. Harlez publishes "Cyrus était-il Roi de Perse ou de Susiana?"; in part 3, Signor Pizzi writes Cycles Epiques du Livre des Rois; Prof. Spiegel deals with La declinaison des mots en A dans les langues Aryaques; C. de Harlez gives a brief note on Geldner's Studien zum Avesta; and S. d'Oldenbourg treats shortly of Un passage du Yesht viii. Mythe de Tishtrya; in part 4, M. C. de Harlez has a paper entitled Origine de l'Avesta et son interprétation, système et critique de M. J. Luquiens; there is, also, a brief notice of Prof. Pizzi's La morte di Rustem—episodio del Libro dei Re di Firduso; and a review by Prof. Pizzi of C. de Harlez's Manuel de la Langue de l'Avesta.

In vol. ii. part 1, Prof. Geiger publishes a paper entitled La Pays du peuple de l'Avesta dans ses conditions Physiques; M. E. W. West gives an account of Nouvelles Acquisitions de MSS. Pehlevis à Kopenhague; M. C. de Harle answers

a paper by Mr. Luquiens in the Proceedings of the American Oriental Society; M. Van der Gheyn reviews unfavourably, at least, as to his style of writing and strictures on other scholars, Geldner's *Studien zum Avesta*, Erstes Heft. Lastly, M. C. de Harlez reviews M. Dillon's "*Dualisme dans l'Avesta, Etude des prescriptions disciplinaires*," which, being a work of mark, the reviewer justly regrets is at present accessible only to those who know Russ.—In tome ii. part 2 (the last yet received) M. C. de Harlez calls attention to *Une curieuse Inscription Pehlevie, transcrite et expliquée par le Dr. E. West*; and the same scholar briefly notices the third vol. of Jamaspji Dastur's *Pahlavi, Guzarati and English Dictionary*.—Mr. J. Luquiens gives also a paper on the *Vendidad*, as translated by M. J. Darmesteter in the *American Journal of Philology*, vol. ii. pp. 6, 7.

Among works that have come out recently may be noticed Prof. Spiegel's *Vergl. Gramm. d. Alt-Eranischen Sprache*:—Bartholomae, Chr., *Handbuch d. Alt-Iranischen Dialekte*:—C. de Harlez, *Le Calendrier Avestique et le pays originaire de l'Avesta*:—West, E. W., *An Engraved Stone with Pahlavi Inscription from Baghdad*:—Pizzi, *Manuale della Lingua Persiana*:—Do., *Tishtar-Yasht, Texte, Traduction, etc.*:—Tomaschek, W., *Zur historischen topographie von Persien*, 1. *Die Strassen-zuge d. Tabula Peutingeriana*:—Dillon, E. de, *Die Umschreibung der Eranischen Sprache*:—Darmesteter, J., *Etudes Iraniens*, II. part i., chiefly reprints, though with considerable additions, to papers previously printed.

Turkish.—We have comparatively little to record this year of Ottoman work. In the *Athenæum*, however (Sept. 2), is a very full review of "*Ottoman Poems, translated into English Verse*," by E. J. W. Gibb, Esq., M.R.A.S.—in which it is pointed out that a great change is coming over the study of languages, and that the so-called "*dead Turanian*" tongues are again making themselves heard. It seems peculiar to

Turkish that the same literary system and workmanship are in full vigour, which can be seen in compositions five hundred years old. Another work by the same scholar is announced (March 31) as in progress, but we are not aware that any part of it is yet in type. It is called "The History of the Jewâd," and deals with the adventures of a young magician, who wanders through various countries, seeking to do good. From the same paper (June 3, 1882) we learn that another Turkish press has been set up in Constantinople, and is conducted by a Turkish gentleman,—one of its first publications has been an Almanac, the monopoly of almanacs having hitherto been in the hands of Government,—and that three Turkish illustrated publications are now coming out at intervals (Aug. 26). Their names are, *Mirat-i-Alem*, issued fortnightly by the Society of Arts and Sciences; the *Chojuklarara Kraat*, a Paper for the Young; and the *Felek* in Turkish but with Armenian characters. Redgib Bey is, also, preparing another French-Turkish Dictionary (March 31).

It may be added that the late M. Grigorief, as Chief Administrator of the border Kirghiz tribes, drew up a scheme for a Kirghiz school for teachers. We understand that, after a delay of twelve years, this project is about to be realized.

In the *Academy*, also (March 24, 1883), is a good review of Mr. Gibb's work by Mr. C. E. Wilson, M.R.A.S.

From the *Revue Critique* (July 20) we hear that Schalich Effendi has been appointed Director of the Libraries at Constantinople, and that he has already commenced a Catalogue of Printed Books and MSS. Among the latter some precious documents have been found.

In the *Literarisches Central-blatt* (Feb. 1883) are good notices of Radloff's *Phonetik der Nordlichen Türks-sprachen*, and of Heintze's *Türkische Sprach-führer*—a book likely to be of much service to travellers, but not philologically scientific. In *Macmillan's Magazine* (Jan. 1883), Mr. S. L. Poole has written a paper on "Ottoman Poetry."

Of books in progress or recently published may be mentioned M. Barbier de Meynard's great Dictionary, which is progressing satisfactorily :—*Dictionnaire Ottoman, nouvelle Edition, par Hussain-Ramzi Effendi* :—Decourdemanche, J. A., *Fables Turques* :—Heintze, W., *Türkischer Sprachführer, Konversations Wörterbuch für reisende* :—Courteille, Pavet de, *Miradj-Nameh, publié pour la première fois d'après le Manuscrit Ouigour de la Bibliothèque Nationale*.

Epigraphy.—Much has been done during the past year on this branch of research, but two years have now nearly elapsed since the publication of the first part of the great French *Corpus Inscriptionum Semiticarum*, and we are not aware that the second part is as yet even advertised. Possibly it may be laid before the next Oriental Congress at Leyden.

In the *Indian Antiquary* Mr. Fleet has continued his valuable labours and has published, Sanskrit and Old Canarese Inscriptions, Nos. cxxiv.—cxxvi.; he has, also, written on "Padinant-Agrahâra" (see *Ind. Antiq.* vol. x. p. 185) and "On Nisîdhi and Guḍḍa" (see *Ind. Antiq.* vol. viii. p. 245) :—Mr. W. Cartellieri publishes (August) An Âbu Inscription of the reign of Bhimadeva II. dated Samvat 1265, which was partially translated by Prof. H. H. Wilson in *As. Res.* xvi. p. 299. The present transcript has been prepared with the aid of Prof. Bühler from a facsimile taken by Mr. Burgess :—Mr. E. Hultsch contributes three papers (Sept. Nov. and Dec.) on A Grant of Arjunadêva of Gujarat dated A.D. 1264 ; on Two Inscriptions published in General Cunningham's *Archæol. Survey*, vol. x. (1880) ; and on a Chaulukya Grant dated A.D. 1207 respectively. Professor Bühler describes (Sept.) three Inscriptions from the Stupa of Jaggaya-petṭâ found by Mr. Burgess during his excavations at that place ; and writes (Nov.) On a grant of Siladitya II. dated Samvat 352, which he also obtained from Mr. Burgess. The characters in this Inscription differ in many ways from those of other

Valabhi Inscriptions.—The August number contains, also, a note by Prof. Bühler "On the origin of the Indian Alphabet and Numerals," reprinted from a paper by Sir E. Clive Bayley in the J. As. Soc. Vol. XIV. pp. 339-346; and Mr. E. W. West gives a plate, description and translation of An Engraved Stone with a Pahlavi inscription from Baghdad; Mr. K. B. Pathak has written (October) on a Kadamba Inscription at Siddâpur of Saka 1080 (A.D. 1167); and (April, 1883) On an Old Canarese Inscription at Toragal, of the date of Saka 1110 for 1109 (A.D. 1187-8). In Jan. 1883 Mr. Lewis Rice, Director of Public Instruction at Bangalore, gives an account of a Rastrakuta Grant from Mysore of the Saka date 735=A.D. 822. The Rastrakuta or Ratta kings ruled in Mysore before the rise of the Ganga power. In Feb. Dr. Hoernle gives Revised Translations of two Kshatrapa Inscriptions (to which Prof. Bhandarkar replies at great length in the May number). In March, Dr. E. Leumann discusses Samvat and Maurya eras; lastly, in May, Pandit Bhagvanlal Indraji calls attention to a New Yadava Dynasty, described from two Inscriptions, one on copper plate, the other on stone.

In *Proc. of Bibl. Arch. Society*, June, 1882, Prof. Sayce gives an important contribution of all the Coptic Inscriptions still legible on the walls of the tombs at Beni-Hassan and Deir al Medinah, which have not, previously, been published by Lepsius; and (April 3, 1883), Prof. W. Wright of Cambridge, the decipherment of four Phœnician inscriptions on seals (with a plate). The Cuneiform inscriptions in this Journal have been already noticed.

In the *Zeitsch. D.M.G.* (xxxvi. 2), Prof. Sachau writes *Zur Trilinguis Zebedaea*; and, in xxxvi. 3, 4, Dr. Praetorius gives *Bemerkungen über die Safa Inschriften*:—Prof. Noldeke, *Bemerkungen zu den von Sachau herausgegebenen Palmyrenischen und Edessenischen Inschriften*:—and Dr. H. Guthe describes the Phœn. Inscript. from Siloam (first noticed by

Mr. Schliek), with a plate from a photograph. In xxxvii. 1, D. H. Müller gives a paper entitled *Kritische Beiträge zur Sud-Arabischen Epigraphik*, in which he criticizes the *Études sur l'Epigraphie de Yemen* published by MM. J. and H. Derenbourg in *Journ. Asiat.* for April, May, and June, 1882; and Dr. Bühler prints a very important paper, entitled *Beiträge zur Erklärung der Asoka Inschriften*. In the *Journ. Asiatique* (April, May, and June), MM. J. and H. Derenbourg have printed *Études sur l'Epigraphie du Yemen* (above alluded to); M. Sénart gives the second part of his *Études sur les Inscriptions de Piyadasi*:—and M. Halévy brings to a conclusion his *Essai sur les Inscriptions du Saka*:—in August and September, M. Sénart finishes his descriptions of Piyadasi, and MM. Bergaigne and A. Barth deal (as previously noticed) with M. Aymonier's Cambodian Inscriptions.

In the *Muséon*, Tome 2, No. 2, M. E. Drouin contributes a letter, *Sur les Inscriptions de Tunis* (two, apparently, not uncommon Phœnician ones).

In the *Journ. As. Soc. Bengal* (lii. pt. 1, No. 1) Babu Rajendralala Mitra gives a Note on a Sanskrit Inscription from the Lalitpur District, of the date of A.D. 1424, and which was most probably originally attached to the walls of a Jain Temple, near Deoghar.

In the *Journ. of the Bombay Branch of the R.A.S.* (No. xl. vol. xv.), Mr. J. F. Fleet publishes A Copper-Plate Grant of the Dévagiri-Yâdava King, Singhana II., dated Saka 1160 = A.D. 1237-8, and in the same volume is a paper, by Pandit Bhagvanlal Indrajî, On Antiquarian Remains at Sopârâ and Padana. In this paper are good notices of various brief Inscriptions found there by him and Mr. J. M. Campbell, with fairly executed plates (see p. 282, a broken block of basalt bearing a fragment of one of Asoka's Edicts, suggestive of the possibility that a set of them may once have been placed here, pl. 1); Vakâlâ Hill Inscriptions, pl. 2; and, with three plates, others on p. 305, and pp. 317-327.

In the *Bulletin de la Société Académique Chinoise* are notices by M. Ed. Lorgéou, Sur quelques fragments Épigraphiques des Monuments Kmers, with four plates, from Doudart de Lagrée's Exploration en Indo-Chine, p. 21 :—Inscriptions Cambodgiens, Inscription de Prea-Khan, par M. Kern, pp. 250–259, and Do., Do., traduites par M. Aymonier, pp. 260–268.

In the *Revue Archéologique* (March, April, 1883) is a paper by M. E. Senart, Sur une Inscription Bouddhique da Camboge :—and, in M. J. Moura's recently published *Royaume de Camboge*, translations are given in vol. 2, p. 379, etc., of some of the Inscriptions, and, at the end of the same volume, there is a useful Appendix, giving a general account of what has been done up to the present time.

On the subject of the *Hittite* Inscriptions, Mr. Sayce has given a paper to the Bibl. Archæol. Soc. (June 6, 1882) entitled On the decipherment of the Hittite Inscriptions :—and, in the *Rev. Archéol.* for Dec. 1882, M. Perrot has written an able article on Sceaux Hittites en terre cuite appartenant à M. G. Schlumberger (see also, *Revue Critique* for Nov. 6, 1882). In the *British Quarterly Review* for July, 1882, the Rev. Dr. W. Wright, of the British and Foreign Bible Society, has written a long article on the Hittites and the Bible. As is well known, Science owes to Dr. Wright the casts of the Hamath Inscriptions which he presented to the British Museum in 1872. In the *Academy* (Aug. 5) is a valuable letter from Prof. Sayce On a new Hittite Inscription discovered at Tyana by Mr. W. M. Ramsay :—In Aug. 12, the suggestion that a sculptured slab of black basalt discovered last year by M. Löytved, the Danish Consul at Beyrût, is of Hittite origin :—in Nov. 15, it is stated that, in M. Reinach's new Catalogue of the Antiquities in the Imperial Museum at Constantinople, due attention has been paid to the well-known Hittite stones, from Hamath, preserved there :—lastly, Nov. 25, it is announced that two German travellers, Drs. Sester and Puchstein, have discovered, on a lofty cliff of the

Nimrud Dagħ, between Malatiyeh and Samsat, colossal blocks of stone covered with Hittite Sculptures and Inscriptions.

For *Cypriote* Inscriptions, we have a paper in the Proceedings of the Bibl. Arch. Soc. for May 1, 1883, entitled "On the origin of the Cypriote Syllabary," by M. Alexander Enmann. Some other Inscriptions, such as the Cuneiform, as, also, those read before the Acad. d. Inscriptions, have been noticed under their respective heads. Dr. H. Müller's valuable researches in Ceylon have just been published by Government in two vols., the first giving an account of the Inscriptions, etc., and the Romanized texts of them; and the second, the Inscriptions themselves, for the most part lithographed.

Numismatics.—In the *Numismatic Chronicle* are several papers of much interest. Thus, in 1882 pt. 2, Sir E. Clive Bayley prints "Remarks on certain dates occurring on the Coins of the Hindu Kings of Kâbul, expressed in the Gupta era or in Arabic (or quasi-Arabic) numerals" (with two Plates), with a postscript in Pt. 3: and, in the same part, Mr. S. L. Poole writes "On the Weights and Denominations of Turkish Coins." In Pt. 3 is an extract from Mr. Floyer's *Unexplored Baluchistan*, p. 328, giving an account of the modes of making silver coins, at Kirmân in Southern Persia, which the writer himself witnessed. In Pt. 4 are papers by the Rev. H. C. Reichardt "On an unpublished Coin of John Hyrcanus;" by J. C. Rodgers, Esq., M.R.A.S., "On some Coins of Nâdir Shah struck in India" (with one Plate); by M. Sauvaire, M.R.A.S., to S. L. Poole, Esq., M.R.A.S., "Lettre sur quelques Monnaies Musulmanes" (a portion of the valuable collection of M. de L'Ecluse); by T. de Lacouperie, Esq., M.R.A.S., On Paper-money of the Ninth Century, and supposed Leather Coinage of China, Chinese Paper Money of the Tang Dynasty (with a Woodcut); and, "On Japanese Iron Coins," by the late W. Bramsen, Esq.,

M.R.A.S. In 1883 pt. 1 is a paper by Edward Thomas, Esq., F.R.S., Treas. R.A.S. "On Coins of the E.I.C. in Bombay, under the Charters of Charles II."

To the *Journal of this Society*, Vols. XIV. Pt. 3, and XV. Pt. 1, Sir E. Clive Bayley, K.C.S.I., M.R.A.S., has contributed two papers "On the genealogy of Modern Numerals," which are not purely Numismatic, though closely connected with this subject; and in Vol. XIV. Pt. 4, Mr. Stanley Poole, M.R.A.S., gives a very useful reference paper "On the Successors of the Seljuks in Asia Minor" (accompanied by a Chronological and Geographical Table). In Vol. XV. Pt. 1. Mr. Thomas, F.R.S., M.R.A.S., prints a short paper "On Parthian and Indo-Sassanian Coins."

In the *Journal of the Asiatic Society of Bengal* vol. lii. part 1, No. 1, 1883, Surgeon-Major G. Bidie, M.D., C.I.E., gives a valuable account of "The Pagoda or Varāha Coins of Southern India" with three plates, well drawn and engraved:—and Mr. C. J. Rodgers, M.R.A.S., publishes "Coins supplementary to Thomas's 'Chronicles of the Pathān Kings of Dehli,' No. iii.," with two plates, which, as drawn by himself, are, of course, excellent. In the Proceedings of the same Society, March, 1882, is a note of the Hon. J. Gibbs "On five Coins of the Andhrabitya Dynasty":—(May) Dr. Hoernle gives an account of "Three Gupta Coins" from the Rev. K. S. Macdonald, with a wood-cut of one not yet clearly determined.

In (July and August) Dr. Hoernle exhibited a miscellaneous collection of coins which have been recently found, Gupta gold, and Buddhist copper specimens—he, also, read a letter from General Cunningham on the gold Gupta, previously engraved, and exhibited ten "Satrap" Coins. In November, there is a list of Specimen Coins struck from the old dies in the Calcutta mint. In December, Mr. J. C. Rodgers gave an account of "The Rupees of the Ilahi years of Akbar"; and in January, the same numismatist prints "Notes on a list of Silver Coins of Aurangzeb, Alamgir, etc." In the *Journal*

of the *Bombay Branch of the R.A.S.*, Surgeon-Major O. Codrington, M.D., M.R.A.S., gives a very interesting account (with four well-executed plates) "Of a hoard of coins found at Broach." From the character of the hoard, which comprises about 1200 specimens with some ingots of gold, Dr. Codrington thinks that the deposit must have taken place towards the end of the fourteenth century, the depositor being some merchant of Broach (the ancient Barygaza, *Bapúyaḡa*), who was engaged in foreign trade with the West. Among them are 367 gold coins of Mamluk Bahâri Sultans, many of them in very fine preservation.

In the *Journal of the North China Branch of the R.A.S.*, N.S. xvii. pt. 1, is a long paper "On Annam and its Minor Currency," by Mr. E. Toda, the more valuable as dealing with a subject little known in this country. The paper is illustrated by 59 plates, representing 290 distinct specimens. Besides the description of the coins, this article has much special interest at the present time, when the "Tonquin question" occupies so much attention.

In the *Jour. Asiatique*, vii. ser., vol. 19, M. Sauvaire, M.R.A.S., prints two papers, entitled "Matériaux pour servir à l'histoire de la Numismatique et de la Metrologie Musulmanes" (since published separately)—and, in the *Z. d. D.M.G.*, vol. xxxvi, pts. 3 and 4, Mr. Cecil Bendall, M.R.A.S., contributes a brief notice "Of some Nepalese coins in the Library of the German Oriental Society."

Mr. S. L. Poole has, this year, received the Hauteroche Prize.

Africa.—In the *Academy* (July) is a brief but good review of Dr. Krapf's Dictionary of the Suahili language,—the work of a lifetime, indeed, to use the words of Mr. Cust, "while a few sheets remained in the press, the venerable compiler fell into his last sleep." Dr. Krapf's volume is far more than a mere dictionary; and the student will find in it many valuable notices of the manners, customs, beliefs, and superstitions of the

natives. In the same number is a notice of M. Leo Reinisch's *Die Bilin Sprache in Nord-ost-Afrika*, a Semitic language spoken by the Bogos, which, like the neighbouring Tigré, is clearly of Ethiopic origin. M. Reinisch calls this work a preliminary one; and he has since, indeed so recently as the present month (June), brought out a much thicker volume which he calls "*Text d. Bilin-Sprache*," with tales, anecdotes, etc., and Biblical Legends in Bilin and German, arranged on opposite pages. In August, Mr. Sayce reviews Mr. Theal's pleasant book on *Kaffir Folk-lore*:—In September is an appreciative notice of Prof. F. W. Newman's *Libyan Vocabulary*, a work the more valuable, as the writer has been careful to give his authorities for every word he records. It is the first attempt to make a comparative Dictionary of the Libyan tongues, and to reach back to that mother-tongue from which they must all have sprung. Prof. Newman shows very clearly the agreement between the forms of the Libyan Verb and those of the Semitic Parent-Speech as revealed by the Monuments of Assyria. From Oct. 7 we learn that a new journal has been started, mainly through the exertions of M. Masqueray, entitled "*Bulletins de correspondance Africaine*," in the second number of which is a notice of a Libyan *Stèle* recently discovered at Souama. In wishing success to this publication, we may express the hope that too great prominence will not be given to remains purely Roman. To the *Académie d. Inscriptions*, M. H. Tarry has communicated a notice of some ancient Berber towns in the *Wady-Mya*; his excavations having enabled him to discover remains of a Mosque, a palace, and some houses, dating from the time of the second inroad of the Arabs into Africa.

In the *Journal of the Anthropological Institute* (August), Mr. Hore gives an interesting account of the Twelve Tribes of the Tanganyika, and Sir Bartle Frere (February, 1883) has a good paper "*On the System of Land Tenure among the Aboriginal Tribes in South Africa*." Capt. Burton and

Capt. Cameron have written (May) On Stone implements from the Gold Coast, and Mr. Hutchinson (*ibid.*) has given Notes on a Collection of Facsimile Bushman Drawings.

Dr. Theophilus Hahn, of the South African Library at the Cape, has, also, lately given a lecture there, "On the Science of Language and its Study with special regard to South Africa."

Of books recently published, may be noted M. Gregorio's Cenni di gloss. Bantu:—M. l'Abbé Bouche, Sur la langue Nago ou Yoruba:—Général Faidherbe, Grammaire et vocabulaire de langue Poul, 2^{de}. Ed.:—Olivier, Dictionnaire Français-Kabyle:—and, An Outline Grammar of the Luganda Language, by the Rev. C. J. Wilson.

Madagascar.—The Antananarivo Annual, now edited by the Rev. R. Baron, maintains its high place, and the last number received (V.), that for Christmas, 1881, is fully equal to any of its predecessors. Much attention has been paid in it to the origin of the Malagasy language. On this subject, reference should be made to a short but important paper by Prof. Kern, entitled "Malaiisch-Polynesische Völker," in Z. d. D.M.G. xxxvii. pt. 1 (Anzeigen), and "The Language and People of Madagascar," a paper read to the Anthropol. Institute, Nov. 28, 1882.

Selections from the Report of the British and Foreign Bible Society. Progress in the work of Translation and Revision (1882-1883)—Amoy Colloquial.—The printing of the Old Testament in portions has been continued throughout the year, Dr. Maxwell acting as Editor. Ezekiel, Daniel, etc., to the end of the Old Testament, and the Book of Genesis, have been published.

Aniwa.—The Gospel of St. John, the Acts, I. and II. Timothy, Titus, Philemon, James, the General Epistles of St. John, and the Epistle of Jude have been translated by the

Rev. J. G. Paton, and an edition of 300 copies has been printed at Melbourne by the Bible Society Auxiliary, on the authorization of the Mission Synod.

Armenian for the Blind.—The Committee have resolved, at the request of Drs. Riggs and Thomson, Constantinople, to print portions of the Scriptures in Moon's type, for the numerous blind among the Armenians. The Portions to be printed are the Gospel of St. Luke, Epistle to the Ephesians, Matthew v.—vii., Exodus xx. 1–17, Psalms viii., xix., xxiii., l., li., xevi., xcix., c., cxxxix.; Isaiah i., ix., xxxv., lii.–lv. The Rev. Dr. Riggs is preparing copy, and reading the proofs of the above Portions.

Bengali.—At the request of the Calcutta Auxiliary the Committee have voted a supply of paper, on which to print a tentative edition of 2000 copies of a version of the New Testament made by the Rev. C. Bromwetsch, for twenty years a Missionary of the Church Missionary Society in Bengal.

Buguha.—The Rev. W. Griffith, of Uguha, Tanganyika, has received some critical helps from the Committee, with a view to the production of a version in the above language.

Chinese (Low Wenli).—For a considerable time there has been a growing desire among Chinese Missionaries for an edition of the Chinese Bible in a less classical and simpler style than the Society's admirable Delegates' Version. As a first step towards this end the Rev. G. John has translated ten chapters of the New Testament, and these are being circulated among the Missionaries, with a view to ascertain their opinion.

Corean.—At the request of the Rev. John Ross, of Newchwang, and with the consent of the National Bible Society of Scotland, the Committee have undertaken the publication of the New Testament. The Gospels of St. Luke and St. John were published, by the assistance of the National Bible Society and some friends, in the Western dialect of Corea, but Mr. Ross, with the aid of six native converts, has retranslated the two Gospels into the language of the capital, and to these have

been added the other two Gospels, and the Acts of the Apostles. An edition of 2000 copies of the Gospel of St. Luke and the Acts of the Apostles, is being published as a Portion.

Efatese.—At the request of the Rev. D. Macdonald, supported by the New Hebrides Mission Synod, the Committee have authorized the publication of an edition of Mr. Macdonald's version of the Gospel of St. Luke and the Epistle to the Romans as a Portion. The work will be printed in Melbourne under the care of the translator, and part of the expense will be paid by money raised by the natives of Havannah Harbour.

Fijian.—At the request of the Missionaries in Fiji, the Committee have consented to print an edition of the Bible of 2000 copies.

Hakka-Colloquial. (Roman Character).—At the request of the Rev. O. Schott, of Basle, the Committee have authorized the printing of an edition of 1,000 copies of the Books of the New Testament from Thessalonians to Revelation, thus completing the New Testament. The translation was made from the Greek by the Rev. C. Piton, and revised by the Rev. R. Lechler, of Hong Kong, and the Rev. G. A. Gussmann, who has been thirteen years in China, will edit the edition.

Hebrew.—A fifth edition of Dr. Delitzsch's New Testament has been sanctioned by the Committee, and all mistakes discovered in the fourth edition have been corrected in the stereotype plates, and many improvements have been added. The edition has been limited to 5,000 copies, by Dr. Delitzsch's request, in order that as long as he lives he may in each succeeding edition bring the version nearer perfection.

Hindi.—The revision Committee, composed of the best scholars of the different missions, assisted by native Christians, have commenced work in earnest.

Japanese.—The translation of the Old Testament, at the joint expense of the British and Foreign Bible Society, the National Bible Society of Scotland, and the American Bible

Society, has made steady progress throughout the year. The 1st Book of Samuel, translated by Mr. Fyson, and the Book of Proverbs, translated by Mr. Hepburn, have been formally accepted by the permanent Committee, and handed over to the three Bible Societies to be published for the permanent Committee, and the translators have been appointed a sub-committee to carry the book through the press. The edition is to be printed on foreign paper, uniform with the Standard New Testament. Mr. Fyson has also translated II. Samuel and I. Kings, and he is now proceeding with the Book of Genesis. The translation of the Book of Psalms apportioned to Dr. Verbeck and Bishop Williams is fast approaching completion. Dr. Verbeck has translated the first seventy-seven Psalms, and Bishop Williams the remainder. The Rev. J. C. Blanchet, of the American Episcopal Church Mission, is completing the Book of Isaiah begun by the Rev. W. B. Wright, of the Society for the Propagation of the Gospel.

Jolof.—The edition of the Gospel of St. Matthew, prepared and edited by the Rev. R. Dixon, of the Wesleyan Missionary Society, has been published and sent out to Bathurst, Gambia, for the Jolofs, who number about 50,000 souls.

Kabyle. Roman Character.—The Committee have authorized the printing of the first seven chapters of the Gospel of St. Matthew, with a view to the publication of the whole Gospel should the Portion prove satisfactory.

Kafir.—At the request of the Wesleyan Missionaries in Kaffraria, supported by the Wesleyan Missionary Society, the Committee have agreed to reprint an edition of 10,000 copies of Appleyard's version of the New Testament, the Revised Version having proved unacceptable owing to certain renderings. The Rev. W. Hunter, who edits the edition, will introduce the new orthography without changing the text, and three maps will be added.

Kalmuck.—Professor Pozdnajeff, having made two journeys to Astrakhan, has succeeded in preparing two or three Gospels,

and the Committee, at the request of the Rev. W. Nicolson, have authorized the publication of an edition of 2,000 copies of the four Gospels.

Karass or Turkish Tartar.—M. Saleman is examining the text of the New Testament with a view to a new edition, the previous having been exhausted.

Kazan Tartar.—The Gospel of St. Matthew, translated by Mr. Saleman, has been printed at the Kazan University Press, and Mr. Nicolson has obtained the Censor's authorization for the entire New Testament.

Khassi.—The Missionaries of the Calvinistic Methodist Foreign Missionary Society are engaged on a revision of the New Testament, but as the revision may not be completed for a few years, the Committee have agreed, at the request of the above Society, to publish an *interim* edition of the unrevised New Testament, pocket size. The Rev. W. Lewis, of Wrexham, will edit the edition.

Koi.—At the request of the Church Missionary Society the Committee have published for the Kois, who number 100,000 souls, a tentative edition of 500 copies of the Gospel of St. Luke, and the 1st Epistle of St. John. The translation was made by General Haig, assisted by three Kois who understood the Telugu Bible. General Haig read the proofs of the edition.

Lifu.—The Rev. S. M. Creagh, of Lifu, has translated from Joshua to II. Kings inclusive, Ezra, Nehemiah, Esther, and Isaiah to Malachi inclusive, and Mr. Sleigh is assisting him in the revision of his translations. He hopes before long to complete the whole Bible, and to revise the New Testament.

Malagasy.—During the year the revision Committee met eighteen times and revised 186 chapters—from II. Samuel to II. Kings xvii. This is greater progress than has been made on any previous year. The Rev. W. E. Cousins, chief reviser, has begun the book of Job.

The Shilling Edition of 15,000 copies of the Bible, consisting of the revised New Testament and the partially revised Old Testament, has been carried through the press by the Rev. J. Sibree, Jun., who has returned to Madagascar, and an edition of 25,000 copies of a Sixpenny New Testament is now being published under the editorship of the Rev. Charles T. Price.

Malayálim.—The revision of the New Testament has been completed, and a series of maps prepared, and the revision of the Old Testament is progressing.

Niuean.—The Rev. F. E. Lawes has resumed translation work on the Book of Ruth, and will proceed with the Book of Joshua. He reports rapid sale of the edition of the New Testament published last year.

Molū (Port Moresby, or New Guinea).—The Rev. J. Chalmers' version of the Gospel of St. Mark has been circulated, and is being more widely read than was expected. The Rev. W. G. Lawes has revised Mr. Chalmers' translation of St. Matthew, and forwarded the MS. to the press at Sydney. He is revising St. Luke, and has begun the translation of St. John, and he hopes at no distant day to give the people the New Testament in their own tongue—the most important language of New Guinea, which he believes will yet be the one language of the island.

Persian.—The Rev. Dr. Bruce has finished the revision of the Book of Genesis, and begun the revision of Exodus and the Psalms. The New Testament, revised by Dr. Bruce, to the final revision of which the late Professor Palmer devoted the last six months of his life, is being favourably received.

Suahili.—The printing of an edition of 5,000 copies of the complete New Testament, under the care of the Rev. A. C. Goldfinch, is nearly completed. The translation is the work of the late Bishop Steere, except the Gospel of St. Luke, which was the work of the late Rev. J. Rebman, of Mombas. Bishop Steere had translated several Books of the Old Testa-

ment, and when in London, last year, expressed the hope of being soon able to give the complete Bible to the negro world.

Tahitian.—At the request of the Rev. J. L. Green, supported by the London Missionary Society, the Committee have agreed to publish a school edition of 15,000 copies of the Bible, to be sold at 2s. per copy. Mr. Green will make all necessary revision and read the proofs.

Telugu.—The Committee have secured the entire services of the Rev. Dr. Hay for the completion of the Bible. Dr. Hay has returned to India, and the revisers are to meet him on the Pulnî Hills for the revision of Leviticus, Numbers, Deuteronomy, and Exodus, from June 1 to July 31.

Tibetan.—The printing of the New Testament has been somewhat delayed by the feeble health of the editor, the Rev. H. A. Jaeschke. At the request of Mr. Jaeschke the proofs will be sent out to Messrs. Heyde and Redslob, of Kailang. Mr. Jaeschke will, if able, read the proofs on their return. The present edition is a revision of Mr. Jaeschke's version by the Missionaries Redslob and Heyde, aided by Nathaniel, a baptized Lama. The Gospels have been printed in the square form common to Tibetan books, but the remainder of the New Testament will be in the ordinary book form.

Trans-Caucasian-Turkish.—The Rev. A. Amirchianianz has continued the translation of the Old Testament throughout the year, at Tiflis, and the work is now approaching completion. Dr. Sauerwein is revising the Pentateuch, and it is hoped that the American Missionaries will join in a final revision of the version, which will render it current in their field as well as in the Caucasus. The Committee has resolved to publish an edition of the Books of Genesis and Psalms, to keep up the circulation till the entire version is ready.

Turkish.—At the urgent request of the Missionaries, the Committee have resolved to unite with the American Bible Society in a slight revision of the Bible, with a view to greater

simplicity. Dr. Herrick will give his whole time to the work, and Dr. Riggs, the Rev. R. H. Weakley, and others will give assistance. The Osmanli character of the version, which is intended chiefly for Mohammedans, will not be changed.

Yoruba.—The Books of Proverbs, Ecclesiastes, Song of Solomon, and Daniel have been received from the Translating and Revising Committee at Lagos, and are now in the hands of the printer. These books complete the Bible, and the editor of the edition, the Rev. D. Hinderer, expresses his belief that the translation is good.

Encyclopædia Britannica (Ninth Edition).—In this publication, vol. xiv., are the following Essays bearing on the History etc., of Asia and of the East generally. Kashmir, by Gen. R. Maclagan, R.E., M.R.A.S.:—Khiva, by Major F. C. H. Clarke, R.A.:—Kirghiz, by A. H. Keane, Esq.:—Kurdistan, by Major-Gen. Sir. H. C. Rawlinson, K.C.B., Dir. R.A.S.:—Lahore, by Gen. R. Maclagan, R.E., M.R.A.S.:—Lamaism, by T. W. Rhys Davids, Esq.:—Laotsze, by the Rev. Prof. Legge, M.R.A.S.:—Lebanon, by Prof. A. Socin:—Lhasa, by Col. H. Yule, C.B., M.R.A.S.:—and, in vol. xv., Lycia, by E. H. Bunbury, Esq.:—Lydia, by the Rev. A. H. Sayce, M.R.A.S.:—Madagascar, by the Rev. J. Sibree, jun., M.R.A.S.:—Madras, by W. W. Hunter, LL.D., M.R.A.S.:—Mahmūd, by Gen. R. Maclagan, R.E., M.R.A.S.:—Mahrattas, by Sir R. Temple, Bart, M.R.A.S.:—Malay Peninsula and Malays, by A. H. Keane, Esq., and R. Rost, Ph.D. Libr. India Office:—Maldive Islands, by Col. H. Yule, C.B., M.R.A.S.:—Manchuria, by Prof. R. K. Douglas, M.R.A.S.:—Mandaicans, by Prof. K. Kessler, and Mecca and Medina, by Prof. W. Robertson Smith.

Oriental Congress at Berlin, Sept. 1881.—In the last Report a brief notice was given of this Congress and of the order of its Proceedings, taken from the “Bericht über die Verhand-

lungen, Ersten Theil," published in Nov. 1881. Since then, a second volume in two parts has been issued containing the papers read before the different sections of the Congress. It seems, therefore, worth while to give here, for the convenience of future reference, a complete list of them. They are as follows:

Erste Hälfte—I. Semitische Section. Dieterici, F., Ueber die sogenannte Theologie des Aristoteles bei den Arabern:—Golénischeff, W., Court résumé de la notice de M. W. Stassoff, intitulée Remarques sur les "Rous" d'Ibn Fadhlân et d'autres auteurs Arabes:—Spitta, W., Die Geographie des Ptolemäus bei den Arabern:—Robles, F. Guillem, De l'état actuel des études Arabes en Espagne:—Ethé, H., Ueber Persische Tenzonen:—Ginsburg, C., The Dageshed Alephs in the Karlsruhe MS., being an explanation of a difficult Massorah:—Merx, A., Bemerkungen über die Vocalisation der Targume:—Papageorgios, Sp., Merkwürdige in den Synagogen von Corfu im gebrauch befindliche Hymnen:—Kautzsch, E., Ueber ein räthselhafte Inschrift aus Nord-Afrika (with a Plate):—Oppert, J., Die Französischen Ausgrabungen in Chaldäa (with a plate):—Haupt, P., Die Sumerisch-Akkadische Sprache:—Kessler, K., Ueber Gnosis und Alt-Babylonische Religion:—Sayce, A. H., The Decipherment of the Vannic Inscriptions:—Strassmaier, J. N., Die Alt-Babylonischen Verträge von Warka.

II. Afrikanische Section.—Naville, E., L'Edition Thébaine du Livre des Morts:—Maspero, G., Sur la cachette découverte à Deir-el-Bâhari en Juillet, 1881:—Brugsch, H., Die Aelt-Aegyptische Völkertafel:—Revillout, E., Les Monnaies Egyptiennes:—Lieblein, J., Ueber datierte Aegyptische Texte:—Golénischeff, W., Sur un ancien Conte Egyptien:—and Cust, Robert N., Ueber unsere gegenwärtige Kenntniss der Sprachen Africa's.

Zweite Hälfte. III. Indo-Germanische Section.—Windisch, E., Der Griechische Einfluss im Indischen Drama:—Oldenberg, H., Ueber den Lalita Vistara:—Müller, F. Max,

Zwei Vorträge :—Jacobi, H., Die Epon Kalidâsa's :—Williams, Monier, The place which the Rig Veda occupies in the Sandhyâ and other daily Religious services of the Hindus :—Bendall, C., On European Collections of Sanskrit MSS. from Nepal : their antiquity and bearing on Chronology, History, and Literature :—Pandit Shyâmajî Krishnavarma, Sanskrit as a living language in India :—Williams, Monier, Application of the Roman Alphabet to the expression of Sanskrit and other Eastern Languages :—Harlez, C. de, Der Avestische Kalender und die heimath der Avesta Religion :—Ascoli, J. G., Ueber die Ethnologischen gründe der Umgestaltung der Sprachen :—Collitz, H., Ueber eine besondere Art Vedischer Composita :—Marinkovitch, L. K., Vocabulaire des Mots Persans, Arabes, et Turcs, introduits dans la langue Serbe avec un exposé de la littérature Serbe.

IV. Ost-Asiatische Section.—Long, J., On Eastern Proverbs, their importance and the best mode of making a complete collection, classified with the native interpretations :—Bastian, A., Ueber die Psychologie des Buddhismus :—Beal, S., The Buddhist Councils held at Râjagriha and Vesâli, translated from the Chinese :—Hunfalvy, P., Ueber das bildende Princip der Nationen :—Radloff, W., Die Laut-alternation und ihre bedeutung für die Sprach-entwicklung, belegt durch beispiele aus d. Turksprachen :—Martin, A. P., Traces of International Law in Ancient China :—Bushell, S. W., Inscriptions from the Tombs of Wis Family from the Tzu-yun shan, Purple-Cloud Hill, 28 li south of the City of Chia-liang-hsien in the Province of Shantung :—and Gabelentz, G. von, d. On a new Chinese Grammar.

The next or Sixth Congress will be held at Leiden between Sept. 10 and Sept. 15, but it is not yet known who will act as President in the place of Prof. Dozy, whose sudden and unexpected death has thrown a gloom over the preparations making for it. The Council of this Society have requested Mr. T. H. Thornton, C.B., C.S.I., D.C.L., and their Secre-

tary and Hon. Secretary to attend it as Delegates from the Society.

At the conclusion of the reading of the Report, the following gentlemen were duly elected, as the Council and Officers of the ensuing year.

President.—The Right Hon. Sir H. Bartle E. Frere, Bart., G.C.B., G.C.S.I., D.C.L., F.R.S.

Director.—Major-General Sir H. C. Rawlinson, K.C.B., D.C.L., F.R.S.

Vice-Presidents.—Sir T. Edward Colebrooke, Bart., M.P.; Sir H. Barrow Ellis, K.C.S.I.; James Fergusson, Esq., C.I.E., D.C.L., L.L.D., F.R.S.; Arthur Grote, Esq.

Council.—Edwin Arnold, Esq., C.S.I.; H. Colborne Baber, Esq.; Sir E. Clive Bayley, K.C.S.I.; Major-Gen. Sir Frederic Goldsmid, K.C.S.I.; Colonel Malcolm R. Haig; H. C. Kay, Esq.; Colonel Keatinge, C.B., C.S.I., V.C.; Lieut.-Col. Lewin; Sir Henry B. Loch, K.C.B.; Gen. Maclagan, R.E., F.R.S.E.; Henry Morris, Esq.; Major-Gen. Sir Lewis Pelly, K.C.B.; Sir W. Rose Robinson, K.C.S.I.; T. H. Thornton, Esq., C.B., C.S.I., D.C.L.; Colonel Yule, R.E., C.B.

Treasurer.—Edward Thomas, Esq., F.R.S.

Secretaries.—W. S. W. Vaux, Esq., M.A., F.R.S.; H. F. W. Holt, Esq.

Hon. Secretary.—Robert N. Cust, Esq.

Donations to the Library.—The Council have to report donations to the Library from—

The Asiatic Society of Bengal.

— Madras Literary Society.

— Bombay Branch of the Royal Asiatic Society.

— Ceylon Branch of the Royal Asiatic Society.

— North China Branch of the Royal Asiatic Society.

— Straits Settlement Branch of the Royal Asiatic Society.

— Japan Asiatic Society.

— Royal Society of London.

— Society of Edinburgh.

— Society of Literature.

— Institution.

- The Royal Geographical Society of London.
 ——— Horticultural Society.
 ——— United Service Institution.
 ——— Irish Academy.
 ——— Geological Society of Ireland.
 ——— Astronomical Society of London.
 ——— London Institution.
 ——— Anthropological Institute.
 ——— Society of Arts.
 ——— Society of Biblical Archæology.
 ——— Cambridge Philosophical Society.
 ——— Historical Society of Lancashire and Cheshire.
 ——— Liverpool Literary and Scientific Institution.
 ——— Philosophical Society of Manchester.
 ——— Proprietors of the Canadian Journal of Science.
 ——— Société Asiatique de Paris.
 ——— Géographique de Paris.
 ——— de la Géographie de Bordeaux.
 ——— Académie des Sciences de Montpellier.
 ——— Royal Academy of Belgium.
 ——— Academy of Turin.
 ——— Academy "dei Lincei" of Rome.
 ——— Academy of Berlin.
 ——— Academy of Vienna.
 ——— Academy of Munich.
 ——— German Oriental Society.
 ——— Geographical Society of Berlin.
 ——— University of Bonn.
 Bataviaasch Genootschap.
 Koninkl. Institut. d. Nederlandsche-Indie.
 Hungarian Academy of Pesth.
 The Imperial Academy of St. Petersburg.
 ——— Academy of Natural Science, Philadelphia.
 ——— American Oriental Society.
 ——— American Geographical Society.
 ——— Institute of New Zealand.
 ——— Proprietors of the Athenæum.
 ——— of the Academy.
 ——— of the London and China Telegraph.
 ——— of Allen's Indian Mail.
 ——— of the Homeward Mail.
 ——— of the Mission Field.
 ——— of the Journal of the National Indian Association.
 ——— of Mission Field.

The Society also takes in the following papers :

- The Indian Antiquary.
 ——— Revue Critique.
 Le Muséon.
 The Oriental Publications of the Palæographical Society.

The Athenée Orientale.
 Annales de l'Extrême Orient.
 The Voice of India.

The Journal of the Society is sent to

The Royal Library at Windsor.
 — Secretary of State for India.
 — Royal Society of London.
 — Society of Victoria (Australia).
 — Society of Edinburgh.
 — Institution.
 — Astronomical Society.
 — Geographical Society.
 — Society of Literature.
 — United Service Institution.
 — Dublin Society.
 — Irish Academy.
 — Trustees of the British Museum.
 — Council of the British Association.
 — Society of Antiquaries.
 — Zoological Society of London.
 — Linnean Society of London.
 — Numismatic Society of London.
 — Statistical Society of London.
 — Geological Society of London.
 — India Office Library.
 — Society for Promoting Christian Knowledge.
 — Library of the House of Commons.
 — Society for the Propagation of the Gospel.
 — Society of Arts.
 — Historical Society of Lancashire and Cheshire.
 — Philosophical Society of Manchester.
 — Literary and Philosophical Society of Liverpool.
 — London Institution.
 — Devon and Exeter Institute.
 — Advocates' Library, Edinburgh.
 — Bodleian Library.
 — University Library, Cambridge.
 University College, London.
 Trinity College, Dublin.

The Society has also received the following papers—

— Pandit.
 Indu-Prakash.

and the following individual donations :—

From the Secretary of State for India in Council. History of the Madras Army, 2 vols., by Lieut.-Colonel W. J. Wilson.—History of the Bermudas, by Sir H. Lefroy, K.C.B. (Hakluyt Soc.).—Diary of R. Cocks, by E. Maunde Thompson (Hakluyt Soc.).—Major-Gen. Cunningham, Archaeological Survey of

India, vol. xiii. and xiv., comprising Tours, etc., 1874-79.—Calcutta Review, 1882-3.—Sacred Books of the East, vol. xiv. Law of the Aryas, by G. Bühler, vol. xvi. The Yh King, by Dr. Legge, D.D., vol. xviii. Pahlavi Texts, by E. W. West, pt. 2.—Catalogue of the Chinese Tripitaka, by the Rev. Bunyiu Nanjio, Oxford, 1883.—Notes on Afghanistan and Baluchistan, by Major H. G. Raverty.—Manual of the Land System of India, by Baden Powell, M.R.A.S.—Mackenzie Collection, by H. H. Wilson (reprint), Calcutta, 1882.—Flora of British India, pt. 9, by Sir J. D. Hooker, K.C.S.I.

From the Government of Bengal. Report of Administration of Bengal, 1881-2.

—Tide Tables for Indian Ports, by Major Rogers and E. Roberts, 1883.—Professional Papers of Indian Engineering, Roorkee, 1882.—Meteorological Observations by H. F. Blanford, Calcutta, 1882.—Meteorological Memoirs, vol. 2, pt. 1, by H. F. Blanford, Calcutta, 1882.—Manual of the Geology of India, pt. 3, by V. Ball, M.A.

— *Government of Madras.* Report on the Administration of Madras, 1881-2.—Archæological Survey of Southern India.—Antiquarian Remains of Madras, by R. Sewell, M.R.A.S.

— *Government of Bombay.* Report on the Administration of Bombay, 1881-2.—Report on Sanskrit MSS., by Prof. Bhandarkar, 1881-2.—Papers relating to the Dekkan, 1882.—The Dynasties of the Canarese Districts, drawn up by J. F. Fleet, Esq.

— *Government of the Panjab.* Report of the Administration of the Panjab, 1882.—Panjab Customary Law, 3 vols., by C. L. Tupper, 1881.

— *Government of the N. W. Provinces.* Gazetteer of the N. W. Provinces, vol. x. Himalayan Districts. J. E. M. Atkinson, B.A.: Statistical Account of, Vol. vi. (Cawnpur, Gorackpur, Basti), by J. E. M. Atkinson, B.A.—Report on the Administration of, to March, 1882.—Cawnpore Experimental Farm, 1882.—Administration of Criminal Justice in Oudh for 1881.—Administration of Civil Justice to Dec. 1881.—Report on Railway-borne Traffic to March 31, 1882.—Administration of the Stamp Revenue, 1881-2. Selections from the Records of the Government of India. Civil Statements for the N. W. Provinces for 1881.

— *Government of British Burma.* Report of the Administration of British Burma, Rangoon, 1882.

— *Colonial Office.* Ancient Inscriptions in Ceylon, collected by Dr. Edward Muller, 2 vols., Text and Translations, and Plates.

— *University of Calcutta.* Tagore Lectures, 1880. Principles of the Hindu Law of Inheritance, by Rajkumar Sarvadhikari, B.L., Tagore Law Professor. Calcutta, 1882.

— *Asiatic Society of Bengal.* Sanskrit Buddhist Literature of Nipal, by Rajendralala Mitra, LL.D., C.I.E. This volume contains in its preface a full report of the papers, etc., written by Brian H. Hodgson, Esq., F.R.S., M.R.A.S., long the Resident in Nipal.

— *French Government* (École des hautes Études). Ephemerides Daces, by Emile Le Grand, tome 2nd. Paris, 1881.—Chronique de Chypre, E. Miller. Paris, 1882. Ditto, ditto, Trad. Franc. ditto, ditto.—Meynard, B. de, Diet. Turc.-Français, vol. i. pt. 1 and 2. Paris, 1881-2.—Michels, Abel de, Tan-tu-kinh, Livre des phrases en trois caractères. Paris, 1882.—Courteille, Pavet de, Miradj Nameh, du MS. Ouigour de la Bibliothèque

Nationale. Paris, 1882.—Huart-Imbault, C., Recueil des documents sur l'Asie Centrale. Paris, 1881.—Schefer, C. Sefer Nameh, Relations du Voyage de Nassiri Khosrau. Paris, 1881.—Picot, Emile, Chronique de Moldavie. fasc. 3.

From the Government of the Netherlands. Van de Berg, L.N.C., Minhadj-al-Talibin, vol. i. 1832.

——— *Government of New Zealand.* Statistics of the Colony of New Zealand for 1882.

——— *Trustees of the British Museum.* Poole, S. L., Catalogue of the Oriental Coins in the British Museum, vol. vii. Coinage of Bokhára, etc. London, 1882.

——— *Society for Promoting Christian Knowledge.* Prayer Book in Ojibway. —Vocabulary of the Ibo Language, by Bishop Crowther. London, 1882. —Litany in Boondei, 1882.—Grammar of the Mendei Language, by J.F.S.

From F. W. Madden, Esq., M.R.A.S., The Coinage of the Jews, forming vol. ii. of the "International Numismata Orientalia."

——— Anderson, Major-Gen. R. P., Firdusi, Roostum, and Zoohrab: Victories and Defeats. London, 1873.

——— Allen, Messrs., "Wanderings in Balochistan," by Sir C. M. MacGregor. —"Gujarat and the Gujaratis," by M. Behramji Malabari. London, 1882.

——— Egyptian, Syrian, and North African Handbook, by the Rev. A. Tien.

——— Cust, Robert N., Hon. Sec. R.A.S., Notes on Zoology of the N. W. Provinces, by E. T. Atkinson, B.C.S.—3,600 Tshi Proverbs, in use among the Negroes of the Gold Coast, etc., by J. G. Christaller.—Dictionary of the Asanti and Fante Languages, called Tshi, by do. Basel, 1881.

——— Paulitschke, Dr. Ph., Die Afrika Literatur, A.D. 1500-1750.

——— Chodzko, M., Grammaire de la Langue Persane, 2nd edition. Paris, 1883.

——— Fallon, Miss, Continuation of the late Dr. Fallon's English-Hindustani Dictionary.

——— Goonetilleke, W., Proposal to edit Pāṇini's Eight Books of Grammatical Sutras, vol. i. pt. 1.

——— Hoernle, Dr. A. F., Notes on the Pali Grammarian Kachchayana.

——— Hodgson, Brian H., Esq., F.R.S., Notes of his Services.

——— Indrajī, Bhagvanlal, Esq., "Sopārā and Padana." Bombay, 1882.

——— Jamaspi, Dastur, Pahlavi, Gujarati, and English Dictionary, vol. iii. 1882.

——— Jardine and Forehammer, Messrs., Notes on Buddhist Law, Marriage and Divorce. Rangoon, 1883.

——— Kerr, Mrs., Notes on a Novel Form of Sun-dial, by E. C. Caldwell, Esq.

——— Naville, M. Ed., Inscription historique de Pinodjem III.

——— Paterson, J. W., Esq., Five Maps of the Island of Formosa, surveyed and drawn by him. 1882.

——— Poole, Stanley Lane, Esq., The Speeches and Table Talk of Mohammed. 1882.—Arabic Lexicon, vol. iii. pt. 2. 1882.—Le Koran, sa poésie et ses Lois (Bibl. Orient. Elzevir). 1882.—Arabian Society in the Middle Ages. London, 1883.—Studies in a Mosque. 1882.

——— Royal Institution, Catalogue of Library, vol. ii.

Russell, the Lord Arthur, M.P., Paradise Lost, in Armenian, by P. Ancher. Venice, 1824.—Grammar, Armenian and English, by ditto. 1817.—Beiträge zu einer richtigen Übersetzung der Syrischen Chronik des Gregorius Bar-Hebräus, von. F. G. Mayer. 1819.

- From Rumball, Thomas, Esq., M.R.A.S., C.E., Five Maps (drawn by him), illustrative of Railways, Surveys, etc., between Constantinople and India.
- Robinson, S., Persian Poetry for English Readers. 1883.
- Robinson, Vincent, Esq., M.R.A.S., Eastern Carpets, Twelve Early Examples. 1882.
- Stone, J. C., M.R.A.S., Cradle Land of Arts and Creeds. 1880.
- Taylor, Rev. Isaac, The Alphabet, 2 vols. 1883.
- Vincent, F., The Land of the White Elephant, 3rd ed., New York. 1882.
- The President, Portrait of the Right Hon. Sir H. Bartle E. Frere, Bart., G.C.B., G.C.S.I. (after an oil painting by H. W. Phillips, R.A.).
- the Committee of the Officers of the Royal Engineers at Chatham, through General MacLagan, R.E., An Etching of Colonel Yule, C.B., M.R.A.S.

JOURNAL

OF

THE ROYAL ASIATIC SOCIETY.

ART. I.—*On the Genealogy of Modern Numerals.* Part II.
Simplification of the Ancient Indian Numeration. By
SIR E. CLIVE BAYLEY, K.C.S.I., C.I.E.

THE second part of this paper will be occupied by an attempt to show how the ancient Indian system of numeral signs, described in Part I., was simplified. In other words, it will be attempted to show how this old system became the parent of that now used in India, which employs only nine units and a zero,—indeed of that system as used not in India alone, but now almost universally both in eastern and western countries.

Since this simplification of the signs was the outcome of a reform in the system of numeration itself, it becomes necessary to deal to a large extent with the latter also. In entering upon this question however, it is necessary to premise that, as it has already been the subject of long and learned discussions by writers of the highest ability, it cannot be pretended in the present paper to examine it with any degree of completeness. Indeed, the literature of the question is in itself so extensive that it would be impossible, except after years of study and in the compass of a very considerable volume, to attempt an analysis of it,—much less to discuss completely the conflicting views held by many competent authorities. To those who desire to go more deeply into the subject, Dr. Moritz Cantor's *Mathematische Beiträge* (Halle, 1869) will afford a good view of it. From the information contained in this work it will be seen that I have borrowed largely, although I have not, in some material points, been able to accept the writer's views.

At any rate, from the authorities cited in this work and in M. Woepeke's *Traité sur l'Introduction de l'Arithmétique Indienne en Occident*, some notion may be formed of the extent of the field over which a full and complete inquiry should extend.

All now attempted will be a sketch of the leading and more important facts, so arranged as to sustain a consistent theory for their explanation. It will be endeavoured to do this within the compass of an ordinary paper in the Society's Journal, without the omission of anything really material, but without entering upon any controversy. The conclusions formed will be submitted with the data on which they are based, to be accepted or rejected on their own merits.

It may be said that on arriving at this point in the history of numerals, we are no longer under the necessity of depending almost entirely on inference and conjecture. Much positive evidence exists, though unfortunately on some points of a conflicting nature. The task to be accomplished is to rearrange and reconcile it. Some of the direct testimony with which we have to deal is that of the early Arabic historians. This, with the indirect and undesigned proofs derived from the writings of the Arabic and Sanskrit mathematicians, forms by far the most important and trustworthy material available. Other information, obtained from European sources, both ancient and mediæval, will be also used, though some caution has to be used in dealing with the latter.

The ground, as has been said, has long since been occupied by writers of the highest ability and most profound learning, such as Humboldt and Chasles, and by a writer whose acquaintance with Oriental mathematics is probably still unrivalled—the late M. Woepeke. Indeed, it may be admitted at once that the lines of the present paper follow closely those on which M. Woepeke has written his two papers on the subject, viz., the *Traité sur l'Introduction de l'Arithmétique Indienne en Occident* (Rome, 1859), and *Sur la propagation des Chiffres Indiennes* (*Journal Asiatique*, ser. 6, tom. i.). The question has since been carried somewhat further by M. Leon Rodet in his papers on the writings of

Aryabhāta in the *Journal Asiatique*. Little more will be here attempted than to bring together the main items of the already existing evidence, and to use them together with some little recently discovered matter, in enforcing and carrying out to their legitimate conclusion the views of these two latter writers.

Before, however, dealing with the subject as one of history, it is necessary to clearly understand the principle of the great reform to which it refers. It has been shown in Part I. that the old Indian system, as eventually established, employed twenty "self-contained" signs which, by the aid of a system of differentiation, were in fact capable of expressing any series of numbers—those at least likely to be used in the ordinary concerns of life.¹ These were used without any reference,

¹ It is not necessary to explain here the methods by which the still higher numbers used for mathematical calculations were expressed. It is sufficient for the present inquiry to take note of the early, and it may be said universal employment of the decimal arrangement. Nor is it necessary to dwell on the much wider question of the causes which led to its adoption. It is possible that there was a stage in the very early history of civilization, when mankind were more restricted in their power of numeration, as is the case to this day with some of the savage races on the Andamanese Islands, who cannot count beyond three,—indeed indications may, perhaps, still be traced that such a condition once existed among the most highly civilized nations, and that even when this was exceeded they continued to count by *groups* of threes,—still it is certain that the extension of this power must have been one of the earliest steps in the progress of civilization. The system of numbering by decimal stages or "rests" has been very generally supposed to have been suggested, at any rate, by the use of the human hand as an instrument to assist the process of reckoning numbers. Indeed, it is quite possible that the structure of the human hand suggested not only the decimal, but the earlier supposed methods of counting by 'triads,' or 'threes,' the quinary, the quaternary, and the duodecimal modes of numeration. The first being suggested by the ten fingers and thumbs of the joined hands, the second by the 'three' joints, the third by the four fingers, the fourth by the fingers and thumb of one hand (the Akkadian name for 'five' is synonymous with that for 'hand'; Pinches, *Proc. Soc. Bibl. Arch.*, June, 1882), and the duodecimal by the multiplication of the 'three' joints by the four fingers. It is singular, too, that the Babylonian sexagesimal unit of 'sixty,' or *šūš*, will result from the further multiplication of twelve by five (perhaps better of $2 \times 2 \times 3 \times 5$; see Pinches, *Proc. Soc. Bibl. Arch.*, June, 1882, p. 116), and the still further multiplication of this result by 'ten,' gives the Babylonian 'nēr,' or 'six hundred.' At any rate, there are many curious facts which seem to indicate at least, this origin for the decimal system, and which also show the universal use of the human hand as a 'reckoning board.' It will suffice to mention a few of these only here. In Egypt, for example, in the hieroglyphic signs, the human hand and its portions were employed to signify measures of length. The cubit was divided into 'diti,' of which twenty-eight went to the royal, and twenty-one to the common cubit. One, two, or three 'diti,' were indicated by one, two, or three fingers respectively; four 'diti' by the human hand displaying four open fingers; five 'diti' by a similar figure with the thumb also displayed; six 'diti' by a closed fist; and eight by a reduplication of the sign for four 'diti.' Again, in general

necessarily, to the position in which they were written down. Each expressed the full number which it designated, whether accompanied by others or not.

numeration, the finger with the top joint bent designated ten thousand, and there are perhaps in the hieroglyphics other, though less palpable reminiscences, of the human hand. Another curious piece of evidence is suggested by a notice published by Mr. J. Fleet in the *Indian Antiquary* for 1875, vol. iv. p. 85. Mr. Fleet mentions Professor Hunfalvy's remarks at the Oriental Congress of the preceding year to the effect, that in a very considerable number of languages of the Turanian stock, the 'ring' finger is always termed 'the finger without a name.' Mr. Fleet illustrates this by quoting a curious anecdote recorded by a Sanskrit author with reference to the poet Kalidāsa and his eight contemporaries of literary fame at the Court of Kanouj, who were termed its "Nine Gems," and by it proves that a similar custom had existed for so long a period in India, that even at that date (the seventh century A.D.) its origin had been forgotten; for in reckoning these nine gems on the fingers, the writer says "Kalidāsa" was always reckoned first (on the little finger of the left hand), but no one was counted on the next (or ring finger), because none of his contemporaries could be reckoned as even second to him; and, adds this author, hence was assigned at last some reason for calling that finger 'anāmika,' or 'without a name.' Mr. Fleet, it is true, goes on to suggest that this may not be the true signification, and that the term might mean in Sanskrit 'unbent,' in allusion to the difficulty of bending that finger, but in the face of the Turanian parallel, this explanation can hardly stand. This ancient custom, however, may easily be accounted for by referring back to the origin of decimal notation on the hand. If the ten fingers and thumbs suggested the origin of the decimal notation, it is nevertheless evident that in using the hand as an instrument for reckoning, one finger would be superfluous, nine symbols only being required, as the tenth became the first of the new and next highest stage of the decimal series. One finger, therefore, would necessarily be 'skipped,' or laid aside. It is not perhaps easy to suggest any reason why the ring finger should have been specially chosen for omission, but it would be only natural that the calculator should be by common custom of one selected finger, and if, as Mr. Fleet suggests, the process of counting commenced in ancient as it still does in Modern India, with the little finger of the left hand, then it would be natural that the calculator should wish to put his calculation right as soon as possible, and should therefore omit the finger next after the initial one, which would be of course the ring finger. These facts may suffice to illustrate the antiquity of counting on the fingers. Its wide general diffusion need hardly be pointed out. The Chinese, to this day, have a mode of counting up to 99,999 on the fingers of one hand alone, which will be seen illustrated on Fig. I. Plate I. The nine units are reckoned on the joints, commencing along the *outside* of the little finger; then counting four, five, and six on the joints at the back of the finger; seven, eight, and nine on the joints along the *inside* of the finger; the next finger is similarly used to represent the tens; the next the hundreds; the next the thousands; and the thumb for the tens of thousands. In England the venerable Bede describes another system, which he states to be great antiquity, while the practice of concealed bargaining by pressure of the fingers has been used from time immemorial and is still used among the nations of the East. In India (where the hands are concealed under a cloth), Tavernier (*Voyages*, Part II. pp. 326-7, ed. 1712) describes this mode of settling prices. Halhed says that (in Bengal) the practice is limited to counting up to fifteen; this may be an error, but even this would enable bargains to be made in pies, annas, rupees, and mohurs, and a limit of fifteen mohurs or 240 rupees would suffice for the requirements of most Bengal markets. In Barbary and Arabia the hands are manipulated under cover of the long sleeves of the burnous. Enough has, however, been said to indicate the probability of the derivation of the decimal system from the structure of the human hand, and to show that, at any rate, it is apparently the most primitive and simple and most

On the other hand, the main principle of the new method was the discovery, and application of, 'the value of position'; in other words, the discovery that the signs for the nine units only, when arranged in a certain strict decimal order, would suffice to express any number or series of numbers whatsoever.

This discovery rendered it possible to dispense with the signs of the older system for expressing the higher numbers, tens, hundreds, and thousands, and was, undoubtedly, the first and main step of the reform.

The next step, that which made the reform complete, and which resulted in our present beautiful and flexible system, was the invention of the 'zero,' that is to say, a sign for 'nullity,' to be employed when the number to be expressed contained no special indicator of any one or more of the steps in the decimal series represented. Not only, however, are these really independent discoveries, but it will be attempted to show presently that, as a matter of fact, the invention of the zero was

widely spread of all extant methods of numeration. On the other hand, however, it is not to be forgotten that other suggestions have been made as to the origin of this and especially of the quaternary, quinary, and duodecimal methods of notation, which are in themselves not improbable, particularly those derived from astronomy and the natural divisions of time. Indeed, as regards the sign for 'five' employed in Egyptian hieroglyphics, such an origin is expressly assigned by the Egyptian priest Horapollon, and may be taken as correct. "Τὶ Ἀστέρα γράφοντες δηλοῦσι" . . . τὸν πέντε ἕξιμον, ἐπειδὴ πλῆθους ὄντος ἐν οὐρανῷ πέντε μόνον ἐξ αὐτῶν κινούμενοι τὴν τοῦ κόσμου οἰκονομίαν ἐκτελοῦσιν (Horapollon Hierog. liber i. c. 13, *apud* Cantor, M.B. p. 18 and note p. 17); that is to say, the idea of the five pointed stars was taken from the 'five' planets, then alone known to Egyptian observers. No doubt, too, the Egyptians used both quinary and quaternary methods of notation, for eight stars were used to represent 'forty,' and a single star with two to make seven. So the Egyptians early used quaternary multiples of the 'hen' or unit of capacity in their scale of measures of capacity (see Rossi, *Grammatica Copto-Geroglyfica*, p. 89 note and p. 97).

While thus referring back to the oldest pyramids for evidence as to the origin of decimal notation, it may not be out of place to remark that if the theory adopted by this paper be correct, all the signs of the Indian numerals may also be referred back directly or indirectly to the same source. This is even the case with the unit signs, which it has been proposed to derive from the Bactrian alphabet, for since Prinsep assigned these characters to some form of the Phœnician alphabet, this point has never been questioned seriously by subsequent writers, and has been, indeed, supported by several of high authority (see Thomas, *Num. Chron.* n.s. vol. iii. p. 229, and Prinsep's *Essays*, vol. ii. pp. 144-162; also Cunningham, *Successors of Alexander in the East*, pp. 30-44), though they were modified to meet the requirements of an Aryan language, and perhaps also (as Dr. Bühler has suggested) of a Brahmanical liturgy. Again, the Vicomte de Rougé and M. Lenormant (*Introduction à une memoir sur la propagation de l'alphabet Phœnicien*, Paris, 1866, pp. 108-9) have made it almost certain that the Phœnician characters came, through the hieratic, from the Egyptian hieroglyphics.

considerably later in point of time than that of the 'value of position,' and for the present the inquiry will deal only with the latter.

It may be said with truth that from its earliest appearance the Indian system was founded on a decimal principle. It has been shown that the units were represented by a certain set of signs. With ten a fresh series of signs was introduced; then came a new symbol for the hundred and another fresh one for the thousand.

But this practice was not, as has been pointed out above, peculiar to the Indian system, in fact it may be said that it was common to all ancient systems of numeration, and is found in the Egyptian, Phœnician, Babylonian, Assyrian, and in all their derivative systems, and upon this decimal principle have been mainly founded all the ancient and modern systems of arithmetic.

It is found in its simplest, and probably its earliest recorded form on the monuments of the Fourth Egyptian dynasty, to which reference has already been made in Part I. There a single stroke represents unity, two strokes represent 'two,' three strokes 'three,' and so on as far as 'nine.' With 'ten' a new symbol appears; two of these signify 'twenty,' three 'thirty,' and so on up to ninety; at a hundred another new sign comes into use; another at a 'thousand,' 'ten thousand,' a 'hundred thousand,' and a 'million' respectively, that is to say, a fresh symbol is employed at every new decimal stage.

There is, however, one point of some importance to be incidentally noticed. The Phœnician, and all other systems derived from the Phœnician of anterior date to the discovery of alphabetical notation, seem, at any rate up to a very late time, to have possessed no separate and special sign for any number above the hundred. The thousand seems always to have been expressed by groups of the lower signs, and so on with higher numbers.

But while the ancient Indian numeration was thus decimal in its fundamental idea, it was also decimal in another sense, that is to say, the method in which its signs were arranged.

For though each numeral sign was, as has been said, self-contained, and expressed absolutely the number it represented, without any question of its position in reference to other signs, still, nevertheless, these signs were in practice¹ actually arranged in a decimal order, the highest numbers being written first (*i.e.* to the left), and the others following in regular decimal procession. Thus thousands were written first, then hundreds, then tens, and last units. Of course, if there were no hundreds in the series of numbers to be represented, then the tens followed the thousands, or if no tens, also, then the units would follow next upon the thousands. As a matter of fact, however, this arrangement had little *direct* connexion with the decimal principle, or at least was mainly determined by other causes. It is self-evident that a decimal notation by self-contained signs does not necessitate their being written in any fixed order at all, and is quite as consistent with an order proceeding from right to left, as with one proceeding from left to right. Indeed, the latter practice actually prevails in some methods of writing, notably in the Egyptian hieratic. The *cause* of the arrangement will, however, become obvious if it be borne in mind that (as has been already said) *all* numeral signs were in their inception merely shorthand modes of expressing *numeral words*, whether written or expressed by hieroglyphic signs. Numeral signs, therefore, when written, followed quite naturally in their disposition—(1) The arrangement which the language to which they belonged adopted for expressing numbers either orally or in writing; (2) The direction of the writing, whether from right to left, or left to right, which that language employed. For example, if a people (as the Indians did), in speaking and writing mentioned first the higher denominations of the decimal series, and then those next lowest, and if also they wrote from left to right, then in putting down the numeral signs, they would do this in the same order in

¹ As will be presently explained, in some rare instances the Indians arranged numbers perpendicularly one above the other—as, in fact, they did letters also; in either case, however, the first letters and the highest numbers occupied the uppermost positions; the fact does not, however, affect the general argument as respects the ordinary arrangement of the Indian numeral signs.

which they were spoken, and would write naturally the highest number first on the left, then the next highest, etc., as was, in fact, the case with the Indian numerals.

It is evident, also, that a similar result must follow if all the conditions are exactly reversed, that is to say, if when numbers are spoken or written, the units are first mentioned, and then the other higher decimal places in their successive order, and if at the same time the language is *written* in characters reading from right to left. To give an example of either case, it may be instanced that the Indians in speaking or writing, would say one thousand two hundred and twenty-two, and in writing also would begin to write from left to right; the numeral characters following this order would stand as 1222. The Arabs, *per contra*, would write (or say) two-and-twenty and two hundred and one thousand; but, as in writing, they begin on the right hand and go on to the left, the numerals following the order of the writing; the result is also 1222. Of course this is only an indirect effect of the decimal arrangement, the linguistic idiom and the mode of writing having at least an equal share in producing it.

Another factor also contributed in a most important degree to the simplification of the ancient Indian system. This, as will be presently shown, was doubtless the use of the abacus. Indeed, so important a part did this instrument play in the invention of the new method of numeration, that it will be necessary to go at some length into the consideration of its character and of its history, so that its action may be fully understood. It was a contrivance unquestionably of great antiquity, as will be gathered from what has been already said. The popular belief among the Greeks certainly was that it was introduced into Greece by Pythagoras, and Jamblichus,¹ though writing at a comparatively late date, no doubt represented what was current both among the Greeks and Egyptians, when he says that it was upon the abacus that Pythagoras taught both arithmetic and geometry, and

¹ εἰς τὴν δὲ ἀριθμῶν μάθησιν καὶ γεωμετρίας ἐνάγειν αὐτὸν ὑπειράτο ἐπ' ἑβανὸς τὰς ἐκδότου ἀποδείξεις ποιούμενος.—Jamblichus De Vitâ Pyth. cap. v. § 22.

as the same author¹ also says that Pythagoras also first taught the Greeks a particular form of proportional arithmetic, which was a Babylonian invention, it seems very probable the abacus—at any rate as an arithmetical instrument—was of Eastern invention. Indeed, as has been already said, Radulphus of Leon expressly declares it to be so, and there is no reason to doubt the fact, especially as its use seems to have spread to Eastern Asia at a very early period—for it has been known both in India and in China for a period probably long anterior to the Christian era. It has been already pointed out that the etymology most generally received connects the name of the instrument with an ancient Semitic word which signifies fine dust, and the form, therefore, which the instrument originally assumed was probably that of a board covered with fine dust.² The instrument on which Pythagoras taught *both* geometry and arithmetic must have been something of this kind, the board having probably a raised edge to retain the dust or sand with which it was covered, and being used lying flat. This latter view is supported by the fact that the word 'abacus' is used in several other instances in which the leading idea seems to be that of a flat slab, board, or table. Thus it is used in Latin to signify a sort of side table (cf.

¹ εἶρημα δ' αὐτῆς φασὶν εἶναι Βαβυλωνίαν καὶ διὰ Πυθαγόρου πρῶτον εἰς Ἑλλήνας ἔλθειν. (Jamblichus Comment. ad Nicomach: Arith., the second word ought apparently to be δ' αὐτῆς.) See also Isidore Hispalensis (Bishop of Seville) Origines, liber iii. c. 2. Numeri disciplinam primum apud Græcos Pythagoracis autumant conscripsisse et deinde a Nicomacho diffusius esse dispositam quam apud Latinos Appuleius deinde Boethius transtulisse (for the quotations in this note see Cantor, pp. 369 and 391). Porphyry, in his Life of Pythagoras, credits the Phœnicians with the invention, or at least perfection of arithmetic, while assigning that of geometry to the Egyptians, and of astronomy to the Chaldeans. Γεωμετρίαν μὲν γὰρ ἐκ παλαιῶν χρόνων ἐπεμεληθῆναι Αἰγυπτίους τὰ δὲ περὶ ἀριθμοῦ τε καὶ λογισμοῦ Φοίνικας. Καλδαίους δὲ τὰ περὶ τῶν οὐρανῶν θεωρήματα (De Vit. Pythag. 56, ed. Krissler, p. 12). But the point is not of importance for the present argument; if the Babylonians or Chaldeans were far advanced in astronomy, they could hardly have made much progress without some considerable use of arithmetic, and Pythagoras, who is reported to have been carried as a prisoner into Babylon by Cambyses, and who spent a long captivity there, may well have learnt his arithmetic and the use of the abacus in that country.

² The idea may have arisen from some such practice as still obtains in many a village school in India, where the smallest boys are made to lie upon the ground and scrawl letters and figures in the dust or sand of the floor (sometimes on the ground outside) with a bit of stick till they acquire some familiarity with the shape of these; they are then promoted to the use of a writing-board. Of this more will be said when treating in Part III. of the Gobar numerals.

Cicero against Verres, Actio ii. Lib. iv. c. 15, "Ab hoc abaci vasa omnia ut exposita fuerint abstulit;" see also Juv. Sat. iii. p. 264). In architecture, also, the word has a special significance, meaning an ornamental moulding such as would be produced by the projecting edge of a slab placed over the top of a pillar or in any other similar position.¹ At any rate this cheap and primitive form of the instrument was early in vogue, and seems to have held its place down to a very late date. See as regards India the Preface to Taylor's *Lilawati*, quoted by Reinaud, "*Memoire sur L'Inde*," in which an Indian instrument is described as composed of red sand on a whitened board, the figures thus appearing as white on a red ground. In classic ages the original form seems to have survived, at least for popular employment, even side by side with others of an improved form invented later on. Thus Persius, Sat. i. 181:

"Necque abaco numeros et secto in pulvere metas,
Scit risisse vafer.

So also in the fifth century Martianus Capella:

Sic abacum perstare jubet, sic tegmine glauco
Pandere pulvereum formosum ductibus æquor.

On an instrument thus constituted work must have been done with some kind of "stilus," but in all forms the principle was the same. When used for arithmetical purposes parallel lines were drawn, usually (as will be argued presently) horizontally, and each of these signified one place respectively in the decimal series.

Thus the first (i.e. the lowest) line represented units, the second tens, and the third hundreds, the fourth thousands, and so forth. Probably not more than seven or eight such places were usually represented, though eventually lines were used (before, or below that which represented the units) to express fractions, or when (as it will be shown was the case) the instrument was used for monetary calculations, to

¹ *Ἀβάκες* (or *abaci*) was also the term employed in the language of 'decorative art,' to signify the rectangular parallelograms or 'pannels' used in painting the walls of rooms.

show the sub-divisions of the standard unit, in terms of which these calculations were made. On the lines thus made the numbers to be represented were doubtless at first simply marked by scratches, in groups up to the number of nine; for the tenth of each series was always, of course, the first of the line next highest in the decimal series. But this simple form of the instrument was eventually replaced by others of a more permanent, and in some cases of a more portable character; boards of wood, and slabs of stone on which the lines which indicated the various stages of the decimal series were painted, or cut, were amongst the first used. On these, perhaps, the signs for numbers were originally marked by chalk or some similar material, but eventually these signs were replaced by pebbles or 'calculi' (whence, of course, the origin of the terms 'calculate' and 'calculation'), to which various references will be found in classic writers. Later on, especially in the days of Roman magnificence and luxury, the pebbles were replaced by counters, often constructed of the most valuable materials; possibly, however, these last may have been rather used for a game, which it is known was played with the abacus. The use of counters was probably already known in the second century B.C., for Polybius¹ has a curious passage describing courtiers as exalted or depressed in condition, at the will of the king, just as counters on the abacus are made to signify 'talents' or 'oboli' at the will of the person using the instrument. These counters were, apparently, at one time placed half-way between the two lines, to indicate an intermediate stage, and so to reduce the necessary number of counters, but this purpose was more completely effected by an invention, according to which the lines themselves were divided into two parts—one of which served to indicate half of each decimal series. This will be best explained by reference to the figure of an actual Roman abacus described in the *Theatrum Arithmetikum* of Leopold,

¹ Ὅντως γὰρ εἶναι οὗτοι παραπλήσιαι ταῖς ἐπὶ τῶν ἀβακίων ψήφοις Ἐκεῖναί τε γὰρ κατὰ τὴν τοῦ ψηφίσοντος βούλησιν ἔρτι χαλχοῦν καὶ παρανίκα τάλαντα ἰσχοῦσιν; οἳ τε περὶ τὰς αὐλὰς κατὰ τὸ τοῦ βασιλέως νεῦμα μακάριοι, καὶ παρὰ πῶδας ἐλεεῖνοι γίγνονται.—Polybius, v. 26, 13 (Cantor, p. 390).

as preserved in the Library of St.-Généviève at Paris, and of which a figure will be found on Pl. III. Fig. 4. On this each line was divided into a long and a short part, and (except on the lines set apart in this case for the fractional parts of the 'as') the long line employed four indicators, which each represented 'units,' and the short line only one indicator, which represented 'five'; thus four units on the long line represented four, without them the solitary indicator on the short line represented five, *with* the four 'nine,' with two the seven, etc. In this example the instrument itself is made of a plate of metal, and the lines are under cut grooves, in which the indicators (which are 'buttons' of metal) slide backwards and forwards at will. Other peculiarities in this particular instrument, however, require notice; the first set of lines is divided into *three* short, instead of one long and one short; and the first of those divided into two has five buttons in the longer part instead of four. This set of double lines is marked with a Greek ' θ ' or 'theta,' while the other long lines bear respectively the Roman signs for one, ten, a hundred, a thousand, etc. The explanation of these latter facts clearly is that the instrument was specially intended for monetary calculations. The line marked by 'theta' represented the 12 'uncias,' or duodenary subdivisions of the 'as,' and the three short lines marked 's' (semi uncia), > (sicilica), and 2 (duodecima), the further subdivision, into $\frac{1}{2}$, the $\frac{1}{4}$, and $\frac{1}{12}$ of the latter respectively. Another example of the Roman abacus is a still nearer approach to the common form of the abacus usually employed at this day in India, China, and Russia, being a frame (of wood) on which the lines themselves are represented (as in the Indian instrument, Pl. I. Fig. 2) by wires, which in the Roman example are bent at each end so as to rise on one side above the frame; and on these, as the Indian abacus, the indicators employed are moveable beads. This last form of instrument seems clearly intended for use in the hand, or hung up against a wall, and on this the lines *must*, therefore, have been used in a horizontal position, for the beads could hardly otherwise be kept apart, to show the number to be marked.

A Greek example was also found at Salamis in the year 1846, of which an engraving is given in Pl. III. Fig. V. (taken from Dr. Cantor's work). It is a slab of marble, on which is cut a parallelogram, nearly double as long as it is broad; within, and parallel with the shorter sides and with each other, are cut near one end eleven lines, which are divided in the centre by a single line at right angles, and at the point of its intersection with the central line of the eleven is cut a star, which is repeated in the middle of each half of the dividing line. Separate, and at a little distance from this set of lines, are cut five other parallel lines, which are not divided by any central line: At one end, that apparently intended to be the top, and immediately above the first set of parallel lines, are cut eleven Greek signs, which have no doubt been correctly interpreted by MM. Létronne and Vincent to signify 1000, 500, 100, 50, 10, 5, 1, *drachmas*, the highest sign being on the left; to the right of the one drachma sign are others intended to denote the 'obolos' or 12th part of the drachma, and the half and one-third of the obolos, and one which indicates the 'Chalchos' or one-sixth of the obolos. These signs are repeated on the side which is on the right hand if the inscribed end be placed opposite and furthest away from the spectator; on the opposite side also they are repeated, but with the addition of two higher signs which undoubtedly stand for 5000 drachmas, and for one talent=6000 drachmas. The signs at the sides are written with their lower ends towards the outside of the board, those at the top with the lower ends towards the inside of the board. The signs at the sides are not written against the several columns, but, on the contrary, nearly all opposite the blank space between the two sets of columns. The one fact which is clear is that the board must have been used with counters of some sort, and therefore lying flat. Indeed, looking to the heavy material (marble) of which it was composed, it was probably, if not permanently fixed, at any rate not intended to be much moved. It has been suggested that this particular instrument was intended either for use by a money-changer or public

accountant, or for playing a kind of game to which allusion has been already made, and said by various classical writers to have been played on the abacus. The suggestions have their rise in the fact that the instrument, from its size and the way in which it is constructed and marked, seems intended to be used by more than one person at a time. It was certainly intended primarily, as was the Roman abacus above described, for monetary calculations. The division of the main set of lines into two parts may have been, as in the case of the Roman abacus already described, to reduce the number of counters required,¹ in fact, if such were the case, three counters would have sufficed (as the scale was *quinary*), two on one side and one on the other. The 'stars' were probably intended merely to assist the eye and to facilitate rapid calculations. On the other hand, the fact that the number of the signs at the upper end and on one side coincide with the number of the lines in the principal set, seems to show that these last were used for ordinary calculations; the other group of five lines without division were perhaps used for the rare cases in which sums above 1000 drachmas were the objects of calculation, and in which the numbers on the other side, expressing terms of 5000 drachmas and the talent, would come into play. These considerations, perhaps, make it more probable that the instrument belonged, as suggested, to some public accountant or money-changer, who, standing at the bottom, would read the numbers opposite to him at the upper end, while those with whom he was dealing stood on either side according to the magnitude of their accounts or dealings. It is not necessary at this stage to inquire more particularly whether, either by Greeks or Romans, the abacus was generally used with the lines in a perpendicular or in a horizontal position or indifferently in either. The Roman abacus, at least, seems probably to have been sometimes used horizontally, as has been already shown.

In any case it is clear that if the lines on an abacus mark-

¹ The Chinese abacus, the lines of which are used horizontally, has also a similar perpendicular dividing line. The Chinese methods of using this instrument, however, are peculiar, and it is not possible to discuss them here at length.

ing the decimal scale be placed or held in a *perpendicular* position, and if the counters used to represent the numbers be replaced by their equivalent unit signs written at the foot of each column, then these last, valued according to the decimal scale of the columns in which they stand, and read from left to right, will give the actual sum of the entire number represented, in other words, it would become palpable that unit signs alone, arranged in a decimal order, were capable of representing any series of numbers. That is to say, the 'value of position' would at once be revealed, *cf.* Pl. I. Fig. 3.

That the value of position was thus actually discovered is not a mere conjecture. For in the earliest known examples of its use in Europe it will be shown that it was employed by the aid of a series of lines, which in fact represented those of the abacus in a perpendicular position. Indeed this figure was then often actually designated by the name of 'abacus,' though also called the 'arcus Pythagoreus,' and in French the 'tableau à colonnes.' It was in fact merely an abacus transferred to paper. The first fact which requires notice in reference to it is, that while it enabled those who used it to dispense with any higher numeral signs beyond those of the units, it did not require even the assistance of the modern sign for zero. The next point to be remarked is that it palpably thus became possible to express not merely one but several series of numbers on the same instrument, by writing them one above the other, and this fact would give immensely increased facility for arithmetical operations. As to the first point it will be best to quote the exact words of M. Woepcke in the *Journal Asiatique*, series vi. vol. i. p. 38 note, "Comme il sera encore question à différentes reprises . . . du tableau à colonnes, comme d'un moyen de remplacer l'emploi du zéro, j'ajouterai une courte explication pour ceux d'entre les lecteurs que ne seraient pas tout à fait familiarisés avec cette matière. Nous écrivons actuellement des nombres tels que les suivants,

en faisant usage du zéro; mais on comprend que, si des lignes verticales étaient tracées d'avance sur la page ou l'on voudrait écrire ces nombres, par exemple, pour en faire l'objet d'un calcul, on pourrait se passer du zéro en écrivant

						3	5
	8	4		9		7	6
1	2		8	4			

cette notation est moins commode, mais aussi claire et aussi précise que la nôtre, pourvu que l'on convienne, une fois pour toutes, que les chiffres signifient les unités lorsqu'ils sont placés dans la première colonne à droit; les dizaines, dans la colonne suivante; les milles dans la troisième, et aussi de suite. Le tableau à colonnes fournit donc un moyen d'écrire tous les nombres, quelque grands qu'ils soient, au moyen des neuf chiffres, en donnant à ceux-ci des valeurs différentes selon leur position, et sans faire usage du zéro."

While thus showing how the tableau à colonnes enables the nine ciphers for the units to be employed without the use of a zero, the example given by M. Woepcke practically also shows how, on this 'abacus transferred to paper,' it became possible to deal with more than one series of numbers at a time, whereas on the abacus itself one set only could be shown. The 'tableau à colonnes' accordingly, as has been said, offered enormously enhanced facilities for all arithmetical operations, so much so indeed as practically to create an entirely new use for the instrument itself.¹ Having arrived at this point, we may now pass to the actual history of the marvellous reform with which we have to deal.

¹ It was possibly by drawing lines between each series of numbers that the 'tableau à colonnes' was eventually transformed into the 'exchequer table' or 'chequers.' This last is described by an English mediæval writer, Richard Fitznigel, as consisting of a space covered by a black cloth with white lines on it, drawn both transversely and perpendicularly about a palm apart, on which calculations were made by means of counters. The calculations in the extreme column to the right advancing by 'twelves' (for 'pennies,' as in the case of the columns for the subdivisions of the 'as' on the Roman abacus), the others by 'tens.' On this cloth the calculations of payments into the Royal Treasury were made, and the term 'chequers' is supposed to be derived from the mediæval term for a chess-board, or 'scaccum,' to which the tableau à colonnes in this shape bore a strong resemblance. See *Edin. Review* for 1811, vol. xviii. art. vii. p. 207.

It may be said, in the first place, that while the credit has been at different times, and by different writers, claimed exclusively for India, for the ancient, or for the later Greeks, some writers have been disposed to believe in a double invention both in the East and West.

Again, a further question arises whether, as has already been suggested, the two portions of which the invention has already been shown to consist, *i.e.* that of the value of position and of the 'zero,' were simultaneously discovered, or whether the one was older in point of time than the other.

It will suffice to say here that the conclusion which it is the purpose of this paper to maintain is briefly that the invention was, as a *practical* invention, at any rate, wholly Indian; that the discovery of the value of position, and of its use, was made a century or more before the discovery of the zero; and that these two inventions reached Europe (also separately and in their turn) the first certainly, the second possibly, if not probably, through Egypt.

To establish this position it is proposed to show that the Indians knew and used either portion of this invention at a date considerably anterior¹ to their use in Europe, and that the earliest and best authorities distinctly describe them as Indian.

On the other hand, it will be attempted to show that the Greeks, ancient and modern (though very nearly approaching them), were certainly ignorant of either invention, or at any rate never put them to any practical use, till very long after the time when they were in full operation in India; and that even when they appear (in their earliest shape) in Europe, they bear distinct and manifest traces of an Oriental, indeed of an Indian origin.

It will be perhaps convenient to deal with these two branches of the inquiry separately, and to take the claims of the Indian arithmeticians into consideration first. In doing so the direct evidence which favours their claims will be first cited, and of this first of all the proofs, afforded by the

¹ See M. Woepcke in *Journal Asiatique*, tom. i. series 6, pp. 247-248.

works of Indian and of Arab writers. Perhaps the most important of these is the evidence of the well-known traveller and historian, Masaudi, who visited India at the close of the tenth century A.D., and who, in his "Meadows of Gold" [French translation, Paris edition, 1861, vol. i. chap. vii. p. 150], says, "Un congrès des sages reuni par ordre du roi (of India) composa le livre du Sind Hind [Siddhanta] ce que signifie 'L'age des ages' Ils inventerent aussi les neuf chiffres qui forment le système numerique Indien." The well-known painstaking accuracy of this writer, his early date and his opportunities, give great weight to his testimony that the nine ciphers are an Indian invention, though their attribution to the deliberations of a congress of sages requires, perhaps, confirmation, and is in itself hardly likely. Moreover, the fact thus stated is quite in harmony with the evidence direct and indirect of other Arab writers; at pp. 237, 238 of M. Woepecke's article, already cited, from the *Journal Asiatique*, will be found authorities to show that the Khalif Walid, who reigned from 705 to 715 A.D., forbade by a special edict the use of the Greek language in the public accounts, and directed the substitution of the vernacular language in the East and of Arabic in the West. He made, however, a special exception in favour of Greek letters as numeral signs, on the ground that the Arabic language possessed no numerals of its own, and in Egypt, also, the Coptic equivalents of the Greek alphabetic numerals, and the Greek methods of bookkeeping, were adopted by the Arabs in the public accounts. [See the authority from Theophanes, quoted by Cantor, pp. 416, 417.] It was not, apparently, till some sixty years later,¹ viz. in the year 773 A.D., that the Arabs became acquainted with the Indian ciphers and with the Indian methods of notation and arithmetic. They obtained this knowledge from a book presented by the envoy of an Indian monarch to the Khalif Al Mansur; I have endeavoured recently to show in the *Numismatic Chronicle*² that

¹ See Woepecke on the authority of the *Tārīkh ul Huḳamā*, *Journal Asiatique* as above, and also pp. 472-480.

² Part II. of vol. ii. 3rd series, pp. 138-146.

this monarch was probably one of the Hindu kings of Kábul, at least that the modern Arabic numerals seem to be derived from the peculiar form of those then employed in that part of India. At that date the complete Indian system with the zero was, as will be shown presently, certainly in full use in India, and it must have been that system (employing the zero) with which the Arabs first came in contact; this seems clear from the excessive eulogiums lavished by them upon the new system of numeration and calculation, as being infinitely superior to the Greek systems, which we have seen were already known and used by the Arabs, a fact which could hardly be predicated even of the *tableau à colonnes* without the zero (at least for all purposes), much less of the ancient Indian system.

The Indian book thus obtained by the Arabs was translated by order of the Khalif, and served as the basis of an Arabic mathematical work by one of the learned men of his day, Mahomed bin Ibrahim al Fazarí. His work again, later on, was abridged by Mahomed bin Musa al Khwárizmi at some date slightly before 205 A.H. = 820-21 A.D., whom a later writer¹ expressly describes as teaching in his work *Indian arithmetic*, while Avicenna in the tenth century and other authors invariably describe the modern decimal system of arithmetic, employing the nine ciphers and the zero, as 'Indian.' Indeed the etymological sense of the word which is now the common term all over the East for a numeral cipher is هندسه 'hindisah' or 'hindsah,' which means simply 'Indian.' Again, one later Arab author (Alkásadi, in his commentary on the *Talkhis* of Ibn Albanná), expressly discussing the Neo-Pythagoreans, describes the ciphers used by them as identical with the Gobar signs, which he says were of Indian origin (Woepcke, J. A. tom. i. ser. 6, pp. 58-60). The Arabic writers therefore, from the earliest times, without hesitation and in unbroken succession, attributed the invention of decimal arithmetic and of the signs with which it was accompanied, to the Indians. Nor was

¹ *Tárikh ul Huqand*. See Woepcke's *Traité sur l'Introduction de l'Arithmétique Indienne en Occident*, p. 19.

this because they were unacquainted with any rival claims which could be put forward on behalf of the Greeks; for, as has been seen, so early as the very beginning of the eighth century, the Arabs knew and eagerly employed the Greek methods of arithmetic; and even as early as 901 A.D. the *Almagest* of Ptolemy was translated into Arabic by Ṭhābit bin Korrah; and it has been shown by the quotation from Albiruni, given from Mr. Burnell's note in Part I., that the *Almagest* was still used and regarded as a leading authority in the commencement of the eleventh century A.D. So far, therefore, as the evidence of Arab writers is concerned (and this is of great value, both from its date, its coherence and the independent character of those who give it), it may be said, not only that it supports the Indian origin of the modern numeration both with and without the zero, but that it practically refutes the claim of the Greeks even to a simultaneous invention. This is the more remarkable—for the Arabs, who were pretty certainly not ignorant of the Indian algebra, do not claim its invention for the Indians, but speak freely also of the Greek algebra, and seem to have adopted largely from either source. Indeed, Abul Faraj, who himself lived in the thirteenth century, calls Diophantus the contemporary of Justinian, and speaks of him in terms which imply that he was still in the thirteenth century the best of all known authorities on the subject of algebra.¹

Indeed, the Indian origin of the new method of numeration, and of the signs which belonged to it, is not without direct support, even from the testimony of later Greek writers themselves. Thus Planudes, who wrote in the first half of the fourteenth century, says, speaking of the zero (which he calls 'τζήφρα'): *τιθέασι δὲ καὶ ἑτερόν τι σχῆμα ὃ καλοῦσι τζίφραν κατ' Ἰνδόνος σημαίνον ὀνδέν· καὶ τὰ ἐννέα σχήματα καὶ αὐτὰ*

¹ That the Indians not only had a knowledge of algebra at a remote period, but made great progress in the employment of it, is doubtless true; but the Greeks also knew it at a very early date. (Diophantus can hardly have been its first originator among the Greeks, and have advanced *per saltum* to a stage beyond even the Indian algebra.) And though it is quite possible that, through the intercourse between the two nations, one may have borrowed from the other algebra and similar inventions, yet there is nothing to prove that it was indigenous with either, or may not even have been borrowed by both from some common source. (Cf. Reinaud, *Memoire sur l'Inde*, p. 303.)

Ἰνδικὰ εἶσιν (see Cantor, p. 373 and Rechenbuch das M. Planudes, Gerhardt, C. J., Halle, 1865, p. 1). Neophytos too, writing about the same period, expressly speaks (Cantor, p. 418 and note 497) of the zero and its companion figures as of Indian origin.¹ There can therefore be no doubt, as far as the signs themselves are concerned, that their Indian origin was known and acknowledged in Europe at that date. The term of 'Indian arithmetic' was known, too, but it was also applied to certain special methods of working, which were later improvements on Al Khwárizmí's methods, of which more will be said presently, and it is possible that it may have been confined to these later methods only.

It may, however, be said that, so far as direct evidence alone is concerned, there is a fair body of testimony, and of testimony above all suspicion, and from various and wholly independent quarters, all distinctly affirming the purely Indian origin alike of the 'zero,' of the modern ciphers, and of the modern methods of decimal arithmetic.

The case, nevertheless, does not rest on direct testimony alone, however valuable or important. There is a still further and, if possible, more valuable and indirect evidence on this behalf, which it is now necessary to examine. Traces of the use of the new decimal arithmetic, at least of an arithmetic employing and based upon the value of position, are to be found in very early Sanskrit writers on arithmetic. The first of these is Áryabháta, who is known, from his own statement, to have been born at Kousámbhipúra (a town on the Jumna, situated not very far above the confluence of that river with the Ganges), in the year 475 A.D., and who may therefore be fairly assumed to have been writing and teaching in the very commencement of the sixth century A.D.

M. Leon Rodet has shown that the method which this writer employs and prescribes, for the extraction of square and cube roots, is practically identical with that of our

¹ Representations of these figures will be found on Plate I. Fig. 6. They will be seen to be for the most part derived from an Arabic model, though one set given by Cantor, from a MS. of Planudes, clearly comes direct from an Indian source. The chain of descent of these figures, and of the Boëthian apices will, however, be more fully treated in Part III.

modern arithmeticians, or at least proceeds on the same principles and seems to presuppose a knowledge of the value of position; that is to say, he prescribes the breaking up of the series whose root is to be extracted into groups of two numbers (or three for cubes), to be dealt with successively, a proceeding which seems to imply a knowledge of the value of position, and of the force which each cipher derived from its place in the general series. See *Journal Asiatique*, series vii. tome xiii. pp. 397, 405-8. Those who care to contrast the method set out by M. Rodet with the older Greek methods, will find the latter stated at length by M. Delambre, in his treatise on Greek Arithmetic attached to Peyrard's translation of the works of Archimedes, Paris, 1807.

But there is another passage in Āryabhāta's work which also gives a further proof of his knowledge of position, though in order to show this a somewhat lengthy explanation is needed. He prescribes (if he did not invent) a method of numeration by a new set of 'aksharas,' made by assigning numerical values to the letters of the alphabet arranged in the method of Sanskrit grammarians according to their 'vargas' or phonetic classes,¹ and thus by means of the 'classified' consonants, twenty-five in number, the four semi-vowels, and the three sibilants, with the aspirate, he obtained signs for the decimal succession of numbers up to one hundred, that is, by the consonants up to twenty-five; then, for 30 and the succeeding powers of ten up to one hundred, by the semivowels and sibilants as shown below :

CLASSIFIED CONSONANTS.

Gutturals	K=1,	Kh=2,	G=3,	Gh=4,	Ng=5
Palatals	Ch=6,	Chh=7,	J=8,	Jh=9,	N̄=10
Cerebrals	T=11,	Th=12,	Ḍ=13,	Ḍh=14,	N̄=15
Dentals	T=16,	Th=17,	D=18,	Dh=19,	N=20
Labials	P=21,	Ph=22,	B=23,	Bh=24,	M=25 ²
Semi-vowels	Y=30,	R=40,	L=50,	V=60	
Sibilants	Ś=70,	Sh=80,	S=90,	H=100	

¹ This principle was probably known to the Indians long before. See remark by Dr. Bühler in Part I., but this particular application of it is new.

² It is evident that possessing signs both for the units and for thirty, for ten and for twenty, i.e. the intermediate places between twenty-five and thirty would be expressed by the use of these.

The passage in question, however, occurs with reference to the use of the vowels and diphthongs. Of these Āryabhāta prescribes the use of the *short* vowels only, that is to say (the 'a' being inherent in the other letters), of the *i*, *ū*, *r(i)* and *l(r)*, and of the double vowels *e*, *ai*, *o* and *ou*. These are to be employed only in *connexion* with the others, to which they add a step of *two* decimal places each, and the passage is to the effect that these in succession, added to the other consonants, give birth each to a couple of 'khas.' Now 'kha' is a well-known term for the 'zero,' and is in its intrinsic meaning equivalent to 'śūnya,' the term usually employed; both in their primary sense signify 'emptiness,' 'a void.'¹

Āryabhāta also uses the word 'sthāna' = place, to signify the position of the numeral signs, a term which also may seem to imply a knowledge of fixed places in a decimal series. It was probably taken from the 'columns' of the abacus. This point however is not perhaps, in itself, of much force.

Another writer, Varāha Mihīra, living also in the sixth century A.D., but somewhat later than Āryabhāta, was the author of a work called the 'Brihat Sanhita,' and employs the word 'śūnya' in a method which pretty certainly shows that he must have had some knowledge of the value of position. I take the liberty of using a paragraph of a private letter from Dr. Bühler to myself, which puts the facts in a singularly neat and clear manner.

"I conclude from the occurrence of the word 'śūnya' in the writings of Varāha Mihīra that he knew the modern system. For if a man expresses (see Brihat Sanhita, viii. 20) the numbers three thousand seven hundred and fifty by the words,² the nought (emptiness), the arrows, the mountains, and the Ramas, it seems to me that he must have thought of 3750, and cannot have had in his mind ५ ७ ५.³ If he had

¹ The force of the argument, as will be seen later on, rests mainly on the use of these terms. The actual employment of this mode of notation *might* have been suggested by a knowledge of the Greek 'octads,' as hinted by Reinaud, *Memoire sur l'Inde*, p. 303.

² These words are of course 'aksharas' or 'phonetic numerals.'

³ ५ = 3000 ७ = 700 ५ = 50.

the latter before his eyes, he would have said, or used words equivalent to, the three thousand, the seven hundred, and the fifty. There are of course hundreds of similar instances in the Brihat Sanhita."

In other words, by employing four distinct and separate phonetic symbols to express a number which under the old system would only have required three such symbols, Varáha Mihira shows that he was dealing with the modern, and not with the old system of numeration, and was at least acquainted with the value of position, which demanded the use of as many symbols as there were decimal places in the series of numbers to be expressed.

Perhaps these facts will be accepted as sufficient to show that the Indian mathematicians of the beginning of the sixth century A.D.¹ were at least acquainted with the value of position, and with the use to which it could be put for arithmetical purposes; and that the simplification of the Indian numeral system had at that date advanced by the initial and most important step. But was it then *complete*? did the writers then employing the terms 'śūnya' and 'kha' use them in their more recent sense of 'zero'? and were they acquainted with that part of the invention also?

This is a point of very considerable importance. If it be conceded that they had *no* such knowledge, it will no doubt clear up a good many of the difficulties which have hitherto obscured the history of the simplification of the numeral system; an attempt will therefore here be made to show that such a supposition is at least rendered probable by the facts which are now known.

M. Woepcke, in the passage already cited, has shown that it is quite possible to use the value of position by means of the 'tableau à colonnes' without any zero; and, as will be explained later, there can be no doubt that it was first known in Europe under this form. But he seems to have taken for granted, that in India the zero was in-

¹ It is, no doubt, possible that similar evidence may be discovered as to the knowledge of still earlier writers; but it is enough for the purpose of this inquiry that the case goes back even as far as the first half of the sixth century A.D.

vented simultaneously with the value of position. Humboldt,¹ while he claimed for the ancient classic nations a knowledge of the value of position, admits that it was 'sterile,' and attributed the latter fact to the want of the knowledge of the zero. So far as I am aware, M. Leon Rodet² in the 'avant propos' of his paper in the *Journal Asiatique* of 1880, first suggested that Aryabhāta might have known the value of position without being acquainted with the zero, or at least might have known the value of position only as exhibited on the abacus; though even he seems to have *inclined* to a contrary opinion.

As Dr. Bühler and M. Woepcke both point out, the words 'śūnyā' and 'kha' mean 'emptiness,' and M. Rodet, *J. A.*, series vii. tome xvi. p. 463, goes on to suggest that the word had originally reference to the 'place vide,' on the abacus, by which the function of the modern zero was certainly once fulfilled. "Les deux noms indiens de zéro शून्य śūnya 'vide' et surtout ख 'kha,' et ses synonymes व्योम 'vyōma' वियत 'viyat,' अम्बर 'ambara' (que j'ai relevés dans le *Sūrya Siddhanta*), l'atmosphère, l'air, l'espace, conviennent admirablement à l'expression d'une 'case vide' beaucoup mieux qu'au nom d'un signe quelconque. Aben Ezra, dans son 'Traité d'arithmétique,' appelle le zéro (qu'il fait tout rond)

¹ "The method of the Pythagorean abacus as we find it described in Boethius' *Geometry*, is almost identical with the positive value of the Indian system, but that method, long unfruitful with the Greeks and Romans, first obtained general extension in the middle ages, especially after the zero sign had superseded the vacant space" (Kosmos, Murray's ed. vol. ii. p. 164). "Even the existence of the cipher or character for '0' is not a necessity for the simple positive value, as the scholium of Neophytus shows" (Kosmos, Murray's ed. vol. ii. p. lxxxi). "What a revolution would have been effected in the more rapid development of mathematical knowledge . . . if the Brahman Sphines, called by the Greeks Calanos, or . . . the Brahman Bargaosa had been able to communicate the knowledge of the Indian system of numbers to the Greeks" (Kosmos, Murray's ed. vol. ii. p. 164).

² "Au moment que j'allais conclure et attribuer à Aryabhāta l'usage de notre système décimal écrit, un scrupule m'est-venu : les calculs qu'il enseigne à faire peuvent s'effectuer conformément à son règle sur un abaque ; le nom que les Indiens ses successeurs comme lui donnait au zéro, a dû être inventé à une époque où l'on faisait usage d'un abaque sur lequel le zéro n'est marqué que par une place vide. Aryabhāta effectuait il ses calculs sur l'abaque, et, . . . se contentait et de transcrire les résultats à l'aide d'un système de chiffres décimaux mixtes . . . ? Voilà un point capital que je suis contraint de laisser sans solution, attendant que des documents nouveaux viennent nous fournir des éclaircissements qui nous manquent."—*Journal Asiatique*, series vii. vol. xvi. p. 443.

גלגל 'galgal,' une roue, un rond. Jamais on n'a rencontré en Sanscrit le zero¹ designé par चक्र 'cakra' (chakra) un cercle, ni par बिन्दु 'bindu' 'un point.' Ainsi ce nom de 'vide' et d'espace fait fortement pencher la balance du côté de l'abacus, du tableau à colonnes."

Other similar equivalents are given by Albiruni (J. A. series vi. tome i. p. 284), 'akāṣa,' 'gagana,' 'abra,' all meaning 'the heavens,' and in the Nouveau J. Asiatique, vol. xvii. p. 16, 'ananta' or 'space' given as another term. It is hardly too much to say, therefore, all the various 'aksharas,' by which the zero is designated in Sanskrit, convey one idea, and one only, under various different forms, viz. 'empty space,' and do not certainly indicate the use of any particular sign or figure. While therefore the use of these terms as arithmetical expressions wherever they are found, though it certainly involves at least a knowledge of the 'place vide,' and therefore of the value of position, does not by its own force seem to imply any knowledge of the sign for 'zero.' Dr. Bühler, indeed, informs me that he has found the word 'śūnya' used in inscriptions in the sense of a 'lacuna' in a MS., and has found sometimes actual lacunæ designated in documents of very ancient date by the points or dots which are now sometimes used for the 'zero,' but neither fact seems to derogate from the force of the argument above stated; indeed, the former rather strengthens it; as to the latter, it will be dealt with further on when treating of the original sign for zero.

If, however, the fact be admitted that at least as early as the time of Varāha Mihīra, that is to say, some time before the close of the sixth century A.D., the value of position was fully known and taught and used in India, it is a somewhat remarkable fact that, for all official purposes, such as grants, inscriptions, etc., the *old system of notation* was employed till well into the second quarter of the seventh century. A number of inscriptions of the Valabhi kings, executed in the fifth, sixth, and seventh centuries, exist, and

¹ This remark refers to the later forms of the Sanskrit zero the 'o' and the '•'.—As to this, more will be said immediately.

even some of the Chalukya dynasties, all dated in figures, many of which are certainly of later date than Varáha Mihíra; two of the Valabhi grants, indeed, of Siladitya V. and VI., are probably of 631 and 637 A.D.,¹ and all belong to the old system.

Now if the use of the value of position *with the zero* was known, and publicly and generally taught as early even as, say, 575 A.D., it is hardly likely that so convenient a system would have been ignored in official use for more than half a century, if not for more than a century. Indeed, it does not make its appearance in actual use for nearly half a century later still. The earliest example at present known is dated in 738 A.D.² On the other hand, when the new system with zero was once introduced, it seems to have almost immediately and completely to have superseded and swept away the older system, except, indeed, in one or two remote places not open to much external intercourse, such as Nepal, where neither the value of position, nor the newer and more convenient Western form of the numerals seem to have been introduced for several centuries later on. There is, however, one very remarkable exception to be made to this assertion; for among the Tamil and Malayalam speaking populations of Southern India the old system of notation was retained, is indeed retained to the present day; subject, however, to one fortunate modification, that is to say, that while the Tamil and Malayalam systems of numeration know nothing even now, (in their proper indigenous forms) of either zero or value of position, they have yet rejected the old signs for the powers of ten, replacing them by compounds of the several units differentiated by the sign for ten, the ten not being used however as a zero, but in one integral group with the unit which it differentiates. This change is important, and will supply a material link to the argument further on. Putting aside these exceptions, I have only been able to trace two

¹ These are dated in 441 and 447, which I have given in the Numismatic Chronicle reasons for believing to be in an era dating from 189 or 190 A.D.

² This grant, which is yet unpublished, is in the possession of Dr. Bühler, who kindly furnished me with a facsimile. It is one by Jaika Rashtrakúta of Bharuj and is dated in 794 'Vikramaya.' It was found at Okamandel.

instances later than 738 A.D. of the use of the old method, one in a grant¹ of Govinda III., Rashtrakúta of Malkhéd, d. 730 Saka=808 A.D., in the body of which the old symbol for twenty occurs (in a slightly modified form). The other instance is a curious one, which was brought to light by Dr. Kielhorn, in his report on Sanskrit MSS. at Bombay for 1880-1. The oldest MS. which he found was written at the end of the eleventh century, and other MSS., all on palm-leaves, bore dates of the twelfth and thirteenth centuries. He says, "In nearly all of them the leaves, in addition to being numbered on the right-hand side with the ordinary numeral figures now in use, are also numbered on the left-hand side with the more ancient numerals mentioned by Pandit Bhagwanlál Indrají, in the *Indian Antiquary*, vol. vi. p. 42."² As a matter of fact, however, this system is not the *old* system, but a singular medley of the old and new, employing the 'aksharas' for 100 and 200, *written in modern Devanagari*, and in some cases the aksharas for the units. With these appear the old *numeral signs* for the powers of ten, while in some cases these are all mixed with the 'zero' and with modern units!

In all these cases the separate numerals are placed perpendicularly one over the other, the hundreds uppermost, the 'tens' in the middle, and the units lowest. Thus:

सू	सु	सु	सु
८=281	४३=199	५=140	०=101
१	३	०	१

It will be seen that the hundred place is in every case represented by 'sú,' the akshara for 200, or 'su,' the akshara for 100, but rendered into the modern Devánágari. The tens are represented by the *old* signs in every case but one, in which they are replaced by the modern zero, while the units are sometimes shown in the Devánágari 'aksharas,' but usually in modern figures! Dr. Kielhorn says that there are indications that this system had ceased to be understood even when

¹ Found at Rádhanpúr in 1873-4. See *Indian Antiquary*, vol. vi. for 1877, p. 59.

² Professor Jacóbi has kindly favoured me with other similar examples from Jain books.

these MSS. were being written.¹ This remarkable survival, therefore, may to some extent be looked upon as a kind of mechanical imitation—retained perhaps out of some superstitious feeling—but no longer serving any useful purpose, and replaced for practical objects by the modern numerals which accompany it. The most remarkable point in it is the fact that the old letters are written one over the other, as if the idea of the value of position, which to some extent they possess, had been borrowed from the horizontally-held abacus.

Except in these isolated cases, however, the adoption of the new system, when *once* it is found in its perfect state, seems to have been singularly prompt and complete, and it is hardly comprehensible that if Āryabhāta and Varāha Mihira, and their immediate successors, had known and publicly taught the complete system in the early part or middle of the sixth century A.D., and had employed it in their written works, that its general adoption should have been so long delayed. On the other hand, if the value of position was known and used in India without the zero, it can only have been used with some such contrivance as the *tableau à colonnes*, and if the *tableau à colonnes* with its value of position was at first known alone, it is of course palpable that, however useful it might have been as an instrument for effecting arithmetical calculations, it was too clumsy a method for ordinary employment in indicating numbers and dates; and this fact would easily explain why, for a century or more, the two systems remained in full parallel use, though for different purposes.²

It may of course be objected that in no existing Sanskrit MS. is there any instance of the use of the *tableau à colonnes*; but in reply it must be said that no MSS. are extant of a date prior to, or indeed in any way approaching

¹ Dr. Kielhorn gives facts which seem to bear out this statement, in the succeeding pages of his report, to which it is only necessary to refer in this place.

² It may be remarked that Dr. Bühler has more than once drawn attention to a similar fact—disclosed by recently discovered inscriptions—viz. that the early Indians certainly employed *two* modes of writing contemporaneously—one stiff and formal for official purposes, the other cursive for general use.

that, when we *know* that the zero was actually in use, viz. 738 A.D. Of course, when the perfect system was known, all the older arithmetical works would ere long have been, when reproduced, rewritten in the form of a fresh recension, adapted to the new discovery. There are, however, some positive indications still traceable which seem to show that the 'tableau à colonnes' *was* once, and at a very early date, in use in India, but that it was also dropped at a comparatively early date. The first of these has been pointed out by M. Rodet in his paper, already quoted (J. A. vol. xvi. series vii. p. 463), in the following words: "Un autre fait sur lequel mon attention a été appelée tout récemment, vient encore, à mon avis, appuyer cette manière de voir (*i.e.* the view that the word 'śūnya' originally indicated only the 'place vide' on the abacus). On sait que dans la grande majorité des manuscrits arabes et persans ou l'on rencontre des calculs arithmétiques, ces calculs sont effectués dans des tableaux à colonnes,¹ auquel il ne manque pour les rendre identiques aux '*abaci*' des calculations occidentaux, que les 'arceaux' '*arcus*' qui surmontaient chaque colonne et les groupaient trois par trois. M. Cantor a qui je dois de connaître la presque universalité de cet usage, que je n'avais eu lieu de remarquer encore que sur quelques manuscrits, l'attribue à un emprunt fait par les Arabes aux Occidentaux. Cet emprunt serait d'autant plus étrange que ce mode de calcul assez peu commode à été de bonne heure abandonné en Occident, et que, des le *xv^e* siècle, les auteurs de traités de calcul ont supprimé les barres de séparation des colonnes, et

¹ L'emploi est formellement prescrit dans un traité d'Arithmétique, probablement assez ancien, qui fait partie du manuscrit 169 fonds persans de la Bibliothèque nationale. L'auteur (Mahmūd ben Mohammed 'Qīwām ul Qāzy, de Valisthān, surnomme Mahmūd de Herat), ne manque pas de dire à chaque opération: "*Tariq ē amal ienan ast, ke jadūli rasn kunād, ke adad ē suṭr e ṭāl ē ū matasavi e adad ē mafaradūt ē dn adad shavad kē*," "la manière de faire cette opération est celle-ci: on trace un tableau dont le nombre des lignes (colonnes, bandes) en longitude (cette à dire comprises entre deux méridiens d'une carte) soit égal au nombre des places du nombre que." Cet auteur n'efface pas les chiffres à modifier il écrit le nouveau chiffre "*dar ztr ē digar ba ad az Khaṭ i kē dn ra Khaṭ-i-ē māhy khwānand*" au-dessous de l'autre après une ligne que l'on appelle 'linea occultans.' Cette dernière expression, empruntée à la grammaire syriaque, doit elle faire croire à une origine syriaque de 'jadūl' de notre auteur, (may not 'jadūli' rather mean a form for a 'magical table,' such as used for incantations, and amulets, from the old Persian 'jādū' 'magic,' or 'witchcraft').

superposent leur chiffres, en barrant (non plus en effaçant) ceux que ne sont que d'un emploi transitoire, procédé déjà employé par Aben Ezra à Rodez en 1156. En voyant l'usage du 'tableau à colonnes'¹ répandu surtout en Perse et particulièrement dans le Khorâsân, tout à côté de l'Inde, je serais porté à croire bien plutôt que l'usage de ce tableau a été emprunté par les Persans orientaux aux Indiens en même temps que l'usage des chiffres. Et comme, ainsi qu'on va le voir tout à l'heure, j'ai de fortes présomptions pour admettre que les elemens de la notation numerique indienne ont eu une origine égyptienne, tout comme, suivant l'opinion qui tend à prévaloir, les apices de Boèce et de ses successeurs de l'occident, il n'y'aurait rien d'impossible à ce que les mathématiciens de l'Inde aient, comme ceux des pays latins, reçu l'usage du tableau à colonnes en même temps que celui des chiffres, de la même source à laquelle les Latins l'avaient emprunté, et que de l'Inde, l'emploi de ce tableau ne soit passé en Perse, puis dans toute l'école Arabe fondée en définitive par des Persans. Peut être si nous arrivons jamais à posséder le texte arabe du traité d'arithmétique d'Alkhwârizmi, dont l'opuscule publié par le prince Boncompagni (Algorismi de numero Indorum) ne saurait être une traduction fidèle, peut être, dis je, verrons nous se confirmer l'hypothèse que j'emets en ce moment sur l'emploi, dans les pays voisins de l'Inde, et partout dans l'Inde elle même, du 'tableau à colonnes,' de l'abacus, sur lequel les compartiments (sthânâni) repondant à tel ou tel ordre d'unités, qui manquait dans le nombre à écrire, restaient 'vides,' çûnyâni=spacia vacua."

It will be seen from the above that M. Rodet has already divined from the facts before him that the use by the Arabs and Persians of the 'tableau à colonnes' was, in all probability, derived from India, though he was inclined to consider that Greeks and Indians both originally derived it from the Egyptians with the numeral figures. How far this last conjecture is probable will depend on the value to be attached to the remarks already made in Part I. It will be now

¹ I omit here a note by M. Rodet, which I hope to reproduce when the subject of the "Gobar" ciphers comes under consideration.

endeavoured to adduce further evidence in support of the remainder of M. Rodet's suggestion that the 'tableau à colonnes' was in very early use in India, and that the terms employed by later Indian writers to designate the 'zero' derive their origin from the 'place vide' upon it.

Allusion has been repeatedly made to the work of Mahomed bin Muṣa 'Al Khwárizmi,' written about the close of the first quarter of the ninth century A.D., and Reinaud ("Memoire sur l'Inde," p. 304) has the credit of first pointing out¹ that the mediæval term for arithmetical science 'Algorism' or 'Algorismus' was really a corruption of the title 'Alkhwárizmi,' 'the man of "Khwárizm,"' by which this writer was distinguished. The discoveries of Prince Buoncampagni and others have now placed this beyond question, and prove that Alkhwárizmi's work was known by Latin translations, at least in the twelfth century A.D.² The work of Leonard of Pisa further shows that the term 'Algorismus' was specifically used to designate a particular method of arithmetical working—itself an improvement on the 'abacus' or arcus Pythagoreus, but which also, in the time of this latter writer, had itself begun to be superseded by another yet more improved method; and this last, coming apparently directly from India, was specifically known as 'Indian.' It is proposed to extract from M. Woepcke's "Traité sur l'Introduction de l'Arithmétique Indienne en Occident" the description of Leonard of Pisa, and to abridge M. Woepcke's remarks on that passage, and then, taking the account given in the same work of Alkhwárizmi's mode of multiplication, it will be attempted to show that, while that author employed the 'zero,' yet that his method of working, which, as has already been said, was avowedly *Indian*, shows traces of having been at least invented on a tableau à colonnes, and it

¹ Though, as Prince Buoncampagni shows, he had been anticipated by a writer in the thirteenth century.

² See M. Woepcke, *Journal Asiatique*, series vi. vol. i. p. 518. M. Woepcke considers that it came probably through the school of Toledo, where Adelard of Bath studied in 1130, Robert of Reading in 1140, William Shelly in 1145, Daniel Morley in 1180 (all Englishmen), and Gerard of Cremona about the same time. M. Woepcke quotes Wallis, *De Algebra. tract. hist. et pract. Operum Math. vol. ii. p. 1216.*

will be further shown that Alkhwārizmī's methods were capable of use upon, and were indeed probably sometimes still employed up to a comparatively late date, with the 'tableau à colonnes' or chequer tables; if indeed that was not still their ordinary mode of employment, even when the use of the zero had rendered any tabular form no longer indispensable.

To begin, however, with the description of Leonard of Pisa. Speaking of it himself, he says, "*Génitor meus . . . me studio abbaci per aliquot dies . . . voluit . . . doceri. Ubi ex mirabili magisterio in arte per novem figuras indorum introductus, scientia artis in tantum mihi pre ceteris placuit, et intellexi ad illam quod quicquid studebatur ex eâ apud egyptum, syriam, greciam, siciliam, et provinciam cum suis variis modis, ad que loca negotiationis tam postea peragravi per multum studium et disputationis didici conflictum. Sed hoc totum etiam et algorismum atque arcus pictagore quasi errorem computavi respectu modi indorum.*" Without going further, it may be seen that Leonard of Pisa thus distinguishes three distinct methods—the abacus, the algorismus, and the Indian method, which latter he proceeds to praise extravagantly and to announce his intention of describing, as, in fact, he proceeds to do. M. Woepcke remarks, "*Quant aux arcs de Pythagore ce nom designe la méthode de l'Abacus telle qu'elle est décrite par Boèce et développée dans les traités d'auteurs chrétienne du X^e et XI^e siècle. En effet nous avons vu que l'invention de cette méthode est attribuée par Boèce aux Pythagoreens, et que ceux-ci appelaient, d'après le même auteur, le tableau à colonnes la table de Pythagore. Dans les manuscrits des traités de l'Abacus on trouve que chacune de ces colonnes est surmontée d'un arc de cercle, et que de plus grands arcs embrassent les colonnes trois à trois. De là le nom d'arcus Pythagorae donné par Leonard de Pise à la méthode de l'abacus.*" [Traité sur l'introduction, pp. 15, 16.] Further on, at p. 46, M. Woepcke says, "*La valeur de position est commune à tout ces systèmes; aussi bien à celui de l'abacus et de Boèce, qu'à celui des Indiens, soit dans la reproduction*

d'Alkhwárizmi, soit dans cette de Leonard de Pise et de Planude. Mais le système de l'Abacus et de Boèce n'emploi que neuf chiffres, tandis que les autres en emploient dix."

As regards the abacus and the so-called method of Boethius, further remarks may be deferred till the claims of the Neo-Pythagoreans to the invention of the simplified decimal unit system come under consideration. It is with the method only of Alkhwárizmi that the argument is at present concerned, and it remains now to show that, as has been just suggested, while this used the 'zero,' and therefore had no need of the tableau à colonnes, yet that its forms seem to bear traces of having been invented to suit the latter arrangement, and were capable of being used with it; indeed it is certain that they were occasionally, perhaps ordinarily so used.

Without going in detail into the method of Alkhwárizmi (which will be found discussed in full in M. Woepcke's two papers, to which reference has been made), it may suffice to refer to the rules prescribed for multiplication, and these are set out by M. Woepcke in the forms now reproduced. They are not of course given as the actual tables of Alkhwárizmi's work, which unfortunately are not available for reference.

The first of these, however, is that which most closely touches the present point, and, as will be observed, according to it, the *first* products of multiplication are written down at the *top* of the form, at the *bottom* of which the multiplier and multiplicand are set forth. Now, as the rules require the products of multiplication to be harmoniously arranged *with reference to the decimal places of the multiplicand and multiplier*, it would manifestly be very difficult, if not impossible, to set down the two sets of figures at so great a distance apart, correctly and in their proper decimal places, without some such guide as the "tableau à colonnes" would afford.

The Persian MS. already described, as quoted by M. Rodet, seems, however, to favour the idea that the first result is to be set down at the top of the sum. By the first method it will be observed that the whole of the results of multiplication are fully set out from the first, and that nothing is set aside to be carried over to the next product, but this is not the case with the second method, by which a certain amount of carrying is necessitated. The use of a tableau à colonnes, of course, though practically necessary, renders the former method easy. The second is manifestly shorter and more compact; still it will be seen by those who attempt to work the sum that it is not *easy* even here to do so without the aid of the table. It seems, therefore, at least far from improbable that the peculiar forms which the Indian arithmetic assumed at first were due to the fact that the processes to which they apply were invented on, if not suggested by, the use of the tableau à colonnes.

The practice of "carrying," by which the modern systems have been so much simplified, probably was suggested by the continued use for arithmetical purposes of the ancient form of the instrument—a board covered with earth or sand. In fact, some of the early Arabic writers expressly describe the operations of arithmetic by directing the effacement of some of the results temporarily written down, and the substitution of those which come out of the final operations. Finally, the two systems of multiplication given above and the so-called Indian system of Leonard of Pisa may be taken as showing the successive steps by which the "carrying" process grew up.

But apart from this suggestion, the probability that Al-khwárizmí's methods were actually intended for use in the tableau à colonnes (and they were Indian methods) is greatly strengthened by the fact that they actually were so employed. For example, in Cantor's book, at pp. 144-45, will be found a description of a work, entitled the "*Margarita Philosophica*," published by one Gregorius Reesch at Freiberg in 1503, where the "*Algorithmus*" methods of calculation (they are described under that name) are applied to a table (of which a copy

will be found at pl. iii. fig. 34 of Cantor's work¹), on which the calculations are worked out with counters, and which is palpably a modified form of the *tableau à colonnes*. Again, it has been seen that the English chequer board, which was quite clearly only a form of the *tableau à colonnes*, was early used in England with counters at a time when Algorism was practically synonymous with arithmetic. Indeed, Chaucer, speaking of the Clerke of Oxenforde in the *Miller's Story* in the *Canterbury Tales*, connects the "stones" or "counters" with the "augrim," or algorismus:—

"His almageste and his bokes grete and small,
His astrolabe longing for his art,
His augrim stones layen faire apart,
On shelves couched at his beddes hed."

And, indeed, the practice of reckoning by counters certainly survived till the time of Shakespeare, who makes his clown in the *Winter's Tale* say, "Let me see! every 'leven wether—tods, every tod yields—pound and odd shilling; fifteen hundred shorn, what comes the wool to? . . . I cannot do't without *counters*."—Act iv. Sc. 2.

In the absence of a perfect example of Alkhwárizmî's work with tables of examples, it may perhaps be allowable to put forward this inferential evidence that the Indian methods of arithmetic which he put forward were originally suggested by, founded upon, and employed upon the *tableau à colonnes*; and if so, this fact affords additional evidence that the earlier Indian arithmetic, which first employed the value of position, can hardly have possessed also the 'zero,' for that would have quickly rendered the *tableau à colonnes* unnecessary; and, in fact, this had disappeared in India apparently not long after the period when it first appeared in Europe.

Another argument which favours perhaps the notion that the Indians knew and used the *tableau à colonnes*, in the first instance *without the zero*, for purposes of calculation, may perhaps be drawn from the fact established by M. Woepeke in

¹ See *Journal Asiatique*, series vi. vol. i. p. 497, where a quotation is given.

his later essay (in *Journal Asiatique*, series 6, vol. i. p. 500), viz. that the Indians were acquainted with the "proof by nine," as shown by the treatises, both of Alkhwárizmi and of Avicenna, and which indeed is expressly declared by the latter to be an *Indian* method. It may, perhaps, not be deemed a very far-fetched hypothesis to suggest, that the invention of such a method would be most naturally prompted by a mode of working wherein 9 was the highest figure known, and played such an important part in the *tableau à colonnes*, as the highest though incomplete expression of the decimal series.

Before taking leave of this portion of the case, it is necessary also to say that the *tableau à colonnes*, as first found in Europe, and in the hands of the Neo-Pythagoreans, bears distinct traces in more than one respect of an Oriental origin. This point will be more fully set out when the case for the Neo-Pythagorean origin of the new decimal arithmetic presently comes to be examined.

If, therefore, the invention of the value of position was known to the Indians in the beginning of the sixth century, there is at least no proof that they discovered the zero simultaneously,—no evidence, indeed, of its use at all, prior to the commencement of the eighth century A.D. On the contrary, there are facts which seem strongly to indicate that the value of position was, during that interim, put to practical use in India by means of a written abacus or *tableau à colonnes*, such as was afterwards employed by the Neo-Pythagoreans, and which would hardly have been needed if the new system started in life already furnished with a sign for zero. Again, the approval with which the Arabs received the new system may be accepted as proof that they knew nothing like it before. They obtained it from India only in 776 A.D.; but they had already, some 70 years before, overrun and occupied the Indian province of Sind, and the resulting fact, that the use of the zero, at least, had not become generally known in Sind at the *commencement* of the eighth century A.D., is one which seems to limit pretty closely the earliest date of its invention.

It remains therefore to seek the origin of the zero in India itself, and it will now be attempted not only to show that

this sign was of indigenous growth, but to indicate the manner in which it may have been originally suggested, the approximate probable period of this suggestion, and finally to trace it through the stages by which it reached ultimate perfection.

What has been said as to the intrinsic meaning of all the Indian names or 'aksharas' for zero, and the probable connexion of the idea which underlies them all with the 'place vide' of the tableau à colonnes, need not be repeated, though, of course, this evidence affords in itself a strong argument in favour of the Indian origin of the sign—an argument which is still further supported by the manifest derivation of all the European terms for this sign from the Arabic word صفر (*sifr*), which it need hardly be said is itself a direct and literal translation of the Sanskrit 'śūnya.' It has the exact intrinsic meaning, in fact, of śūnya, and since, as has been shown, the new Arabic arithmetic was avowedly derived from the Indian, the derivation of 'sifr' from śūnya is beyond doubt. The Neo-Pythagorean 'sipos' seems to be really only a partial transliteration of 'sifr,' or of its first syllable with a Greek substantive termination added, and it will be attempted in the sequel to show that the Neo-Pythagoreans in all probability derived their knowledge, of the zero at least, from India *through* the Arabs; though it is possible that the actual shape of the word they used, may have been adopted in order to bring it into some resemblance with the Greek σιφλός or σιφνός, which had the same meaning صفر 'sifr.' Be this as it may, the term in Planudes and Neophytos is τζιφρα, a term which is certainly not of *Greek* origin, and can hardly be anything but an attempted transliteration of 'sifr,' which the Greeks had converted into 'zifr,' either from a confusion between ('swad') ص and ('zwad') ض, or from inability to render the peculiar sound of the former. In Leonard of Pisa the word becomes 'zephyra,' whence the transition to zephiro, zefiro, zefro, and finally to 'zero,' is easy. On the other hand, the Greek τζιφρα would naturally in French become 'chifre' or 'chiffre,' whence undoubtedly our 'cipher,' or 'cypher.' So far as the European names of

the sign go, therefore, they are clearly traceable through the successive stages of Latin, Greek, and Arabic to the Sanskrit, and no further back.

As regards the sign itself, it is to be remarked that there still exist in current use in Southern India (as has been already pointed out) two systems of numeration, the Tamil and the Malayalam, which to this day make no use of the value of position or of the zero, and which preserve entire the principles of the old Indian notation, indeed its details also, with one exception only; but that exception is a very singular one, and for our present purpose important and instructive.

The Tamil and the Malayalam both reject the arbitrary signs for the powers of ten (except the sign for 'ten' itself) of the older system, of which it has been suggested in Part I. that they were later additions to the Indian numeral system, borrowed or compounded from various sources.

These signs are in both Tamil and Malayalam replaced by a series of symbols which perform exactly the same functions, but which are in effect nothing but the unit signs, from 'two' upwards, *differentiated by* the sign for 'ten,' which is placed *after* them, whereas in writing eleven, twelve, thirteen, etc., the sign for ten is placed *before* the sign for the unit.¹

But, as has been said, the ten, even when thus compounded, does not fully discharge the functions of 'zero.' The new combinations each form one new integral sign, and when used with the unit to represent such numbers as 21, 22, etc., each is written out at full length before the second unit signs, which are separately added. Thus, while the Tamil ௨ represents 'two,' and ௧௦ or ௧௦ stands for 'ten,' then ௨௧ in composition expresses '20'; but it is necessary in order to give '22' to write ௨௧௨, as if it was '20.2.' So in Malayalam 2 is 'two,' and 10 is 'ten,' 20 is '20,' but 22 is 'twenty-two.' The hundreds are similarly treated,

¹ I do not here speak of the Cingalese ancient numerals, still used for some purposes, and which present even a still closer resemblance to the ancient Indian modes of numeration, and are therefore shown in Pl. II. Table I.

ॐ is the Malayalam 'hundred' (almost the identical sign of the Valabhi or Kshatrapah periods), ॐ२ is '102,' but २ॐ is '200.' (See Pl. II. Table I.)

Some approximate deduction may be made as to the date of this first step towards the completion of the new Indian notation from the character of these signs. In the first place, this imperfect substitute for zero would seem necessarily to have been invented before the use of the true 'zero' was known; if it had been known, so partial a reform would scarcely have been adopted at all; and, as has been seen, the use of the zero seems to have been fully established in Upper India, at least, during the second quarter of the eighth century A.D.

On the other hand, this use would seem from the Tamil form of the compounded numerals (if these have not been subsequently modified) to be later in date than the Valabhi inscriptions of the seventh century; for in these the 'aksharas' had hardly quite so wholly effaced the original shapes of the older signs, or so completely effected the conversion of the old numerals into the equivalents of the alphabetical forms, as is the case with the Tamil numerals. The Malayalam forms, too, point in the same direction; for some of the unit signs are palpably allied to the cursive forms, which are first found in official use with the new system and the zero, and can hardly be of much earlier date. It is true that these cursive forms when first employed for dates are so freely used as to lead to a belief that they were even then not entirely new; and this is exactly what might be expected if the new method of notation had been for some time employed, by means of the 'tableau à colonnes,' for purposes of general calculation, before the time when the addition of the 'zero' fitted it for *all* purposes, and led to its adoption even for official documents.

When, indeed, rapid calculations were thus facilitated by the new inventions, and therefore more widely applied to the general purposes of social life, the need of more simple and easily written signs than those which had grown up under the influence of the 'aksharas' would be soon felt, and it may

be useful for purposes of illustration to anticipate a little the history of these changes, which more properly belongs to Part III., and to show how the three lower of the new signs were formed, and their close identity with the modern Hindi forms, $q=1$, $z=2$, and $\frac{3}{2}=3$. The latter is a rather ornamental instance, but it is clear that they are all cursive forms of the ancient $-$, $=$, and \equiv , the change being effected merely by writing them by a continuous stroke and without removing the pen from the surface on which it is writing. It is perhaps most probable that the invention took place in this way, and that it was indigenous. It is, however, to be remarked, that the same process had already long before established similar forms in Egypt, whence they *may* have been imported into India. I allude to the numerals specially employed in connexion with the Demotic writing (Sir Gardner Wilkinson says also in connexion with the Hieratic) to express *days of the month*.¹ These will be found in Pl. I. Fig. 6.

It may be, however, allowable, perhaps, to hazard another conjecture, which, if accepted, would indicate the way in which, the time at which, and the locality in which, this intermediate step towards the invention of the zero was first suggested.

If the interpretation which places the initial date of the Gupta era at 190 A.D., or some closely approximate date, be accepted as correct, then it will be observable that this era only reached its fifth century in 590 A.D. Except the Sâka, at that time hardly any other era seems to have been in use. The Seleucidan and Maurya eras, to whatever extent they had ever been employed, had by that time been apparently forgotten. The Vikramâditya era, even if (as is most probable) it were that in vogue among the Kshatrapah kings, had, when it had reached its fourth century, become so completely superseded by the Gupta and Sâka eras, that Mr. Fergusson and other writers have doubted whether it ever had any real existence as an ancient era. The Sâka and the

¹ See Wilkinson's *Ancient Egyptians*, vol. ii. p. 493, edition 1878; also Pihan, *Signes de Numeration*.

Gupta eras were those almost alone employed, and of these the monarchs who used the Sáka, seem rarely to have expressed it except *in words*. The Valabhi kings, who used pretty certainly the Gupta era, *invariably* expressed it in numerals. Before 590 A.D., however, according to this view, the date of the century, according to the Gupta era, would have been expressed in the old notation by the sign for a hundred differentiated by the old spur-shaped side strokes; it was only when *four* hundred had to be written that the differentiation began to employ the units in combination with the hundred figure. Thus when 444 came to be written, it would be ८५५५.

Now to a person already acquainted with the method of notation according to the value of position, such a group would palpably suggest its simple expression by three consecutive unit signs for four. The difficulty would, however, still remain as to the expression by successive decimal places of the dates which had no unit place, such as 450.

Now, as has been seen, by the example of the Hindu Kábul forms, the Indian arithmeticians had boldly used already their method of differentiation, for the purpose of creating new and more convenient numeral signs; it would be a very natural step therefore for them to conceive the idea of units differentiated by a sign for ten placed after them, in order to supply a convenient arrangement by which the number of decimal places could be preserved, and the use of units according to the value of position could be made applicable to the expression of dates; indeed, for all purposes of written numeral notation whatsoever.

The existence of the Tamil and Malayalam forms, crystallized, as it were, in this first stage of transition, seems to indicate the actual reality of some process of the kind.

The new mode of notation, however, transferred to the tableau à colonnes, would at once supply a mode of filling the 'śúnya' or 'place vide' in the case of the 'ten'; and it can hardly be supposed that the Indian arithmeticians would have been so dull as not at once to perceive that the substitute which sufficed to fill the 'place vide' in the case of the

column of tens, would fulfil the same office equally well in the column of hundreds, thousands, etc. ; and thus the invention of the 'zero' would be completed !

That it was actually so brought about, and that it was actually in its original form nothing but the Indian sign for ten, there is some further evidence.

In M. Woepcke's memoir in the *J. A.*, so often quoted, at p. 465, and in the following pages to p. 473, will be found an account of the method employed in certain Arabic MSS. for writing the *sexagesimal* zero. As to this zero, for the present it will suffice to say that Ptolemy certainly introduced a method of expressing the zero in the sexagesimal place (*but in no other*) by an 'omicron,' which, M. Woepcke contends (*J. A.*, p. 466, note) with great probability, was a contraction of the Greek word 'οὐδεν' or 'nothing.' Now Ptolemy's *Almagest*, as has been already said, was known to the Arabs, and translated as early as the year 901 A.D., and several Arabic treatises were written at later periods on sexagesimal arithmetic, and on Ptolemy's astronomical methods employing sexagesimal notation.

The figures given by M. Woepcke as employed in these treatises for the purpose of rendering the sexagesimal zero, though in a somewhat conventionalized form (as might be expected, inasmuch as the actual MSS. quoted are of a comparatively modern transcription), bore so strong a resemblance to the several forms of the ancient Indian 'ten,' that I ventured to address M. Zotenberg, of the Bibliothèque Nationale, under whose charge these MSS. are placed, and he has at my request verified M. Woepcke's figures by comparison with the originals. In Table II. Pl. II. will be found both M. Woepcke's figures and those of M. Zotenberg's tracings, together with the signs for the Indian forms for ten, of which they appear to be reproductions.

The demand for cursive signs would, as was the case with the symbols for the units, tend to a reversion towards the simpler forms of the older signs, and the 'spurred' circle of the Naná Ghát "ten," may have thus become the original of our modern 'zero,' or, what is perhaps even more probable,

the still simpler form of the Ptolemaic 'zero,' when it became known to the Indians (whether through the Arabs, or by earlier direct intercourse, which is quite possible), was finally adopted as the usual representative of the 'śūnya,' together with the 'bindu' or point which, as has been said, the Indians appear to have used to fill up *lacunæ* in MSS.¹

The oldest figures directly derived from the Indian signs for ten, however, might well have been retained by the writers of Arabic versions of Ptolemy, and of similar works, to designate and, indeed, to distinguish the sexagesimal 'zero,' in regard to which 'cursive' writing was comparatively little needed.

It is to be observed that the new signs are first found in the upper part of Western India. Indeed, they have never fully established themselves or the new numeration of which they were the exponents, in Southern India; and neither were known for many centuries after their first invention in Nepál and the extreme East. There seems some reason, therefore, to believe that it was somewhere on the west coast of India that this great reform was completed.

The Indian claims to the invention, first of the value of position and of the zero, and the evidence which may be adduced in support of them, whether direct or circumstantial, have now been stated. Of course it is just possible that, as regards the value of position, the Indian knowledge of this, though certainly of early date, may relate back to a still earlier age than that here assigned to it, viz. the commencement of the sixth century A.D. It is possible also that this part of the invention *may* not be wholly indigenous to India, but may have come from some other Eastern source. The evidence against such an hypothesis is, indeed, so far simply negative; on the other hand, as will be presently shown, the claims made on behalf of the Greeks,

¹ The oldest actual example of the Indian 'zero,' with which I am at present acquainted, occurs on a coin in my own cabinet, of the Hindu Kábul series, which seems to read 707 (Gupta according to my view, and equal to 897 A.D.). Unfortunately the coin is in poor preservation, and the precise shape of the sign is hardly certain. It seems to be a kind of irregularly formed dot. See *Numismatic Chronicle*, vol. ii. n.s. for 1882, p. 111, pl. i. fig. 7.

for its first, or even for its independent invention cannot be sustained; it is pretty certainly *not* of Western origin. As regards the 'zero,' however, if the evidence adduced is deemed satisfactory, it must be deemed of *purely* Indian origin. In regard to the new signs of the units, moreover, direct evidence has been already given, which in itself would seem conclusive as to their wholly Indian origin. It will, however, be part of the subject which properly belongs to Part III. further to establish this more completely by tracing their genealogy directly through the various later forms, Gobār or Indian, in each case back to the ancient unit forms of the Náná Ghát rocks.

The next subject which it is necessary to examine is the degree to which the arithmetical knowledge of the two great classic nations of the West—the Greeks and Romans—had advanced during the time when this reform was being effected in India.

It has been necessary to show that the Arab authors, who ascribed the invention of the present system to the Indians, in effect denied the claims of the earlier Greeks; but what has been said shows that the latter had nevertheless a good independent system of numeration and calculation, capable of very extensive practical use. Fully to understand what this really was, would require an examination of the exhaustive treatise by M. Delambre, to which reference has been already made. It will suffice for present purposes to make use of an excellent review of that work (one also already quoted), which appeared in the *Edinburgh Review* of 1811, vol. xviii. Art. vii. (on the History of Numeration). It was written by the late Professor Sir John Leslie, and condenses into a brief space as much as will be necessary to show here.

Professor Leslie thus describes the ancient Greek method of multiplication, which may be selected as typical:—"In this process the Greeks appear to have followed the same method as that which was formerly practised with the cross multiplication of duodecimals and nearly corresponding to the ordinary treatment of compound numbers in algebra. They proceeded, as in their writings, from left to right. The pro-

duct of each numeral of the multiplier with every numeral of the multiplicand, was set down separately, and these distinct elements were afterwards collected together into one total amount. For the sake of compactness these partial groups were often grouped or interspersed, though sometimes apparently set down at random. But still they were always noted, nor was any contrivance employed similar to that mental process of carrying successively tens to the higher places which abridges and simplifies so much the operation of modern arithmetic." These remarks will be confirmed by the following example:¹

$$\frac{\sigma \xi \epsilon}{\sigma \xi \epsilon} = \frac{265}{265}$$

$$(I.) \quad \frac{\delta}{M} \cdot \frac{\alpha}{M} \cdot \frac{\beta}{i} \cdot \frac{\alpha}{i} = 40000, 10000 + 2000, 1000.$$

$$(II.) \quad \frac{\alpha}{M} \cdot \frac{\beta}{i} \cdot \frac{\gamma}{i} \cdot \chi \cdot \tau = 10000 + 2000, 3000 + 600, 300.$$

$$(III.) \quad \frac{\alpha}{i}, \tau, \kappa \epsilon \dots = 1000, 300, 20 + 5.$$

Which may be thus explained more fully:—

$$(I.) \quad \sigma \times \sigma = \frac{\delta}{M} \dots \text{or } 200 \times 200 = 40000$$

$$\sigma \times \xi = \frac{\alpha}{M} \cdot \frac{\beta}{i} \text{ or } 200 \times 60 = 10000 + 2000 \text{ (12000)}$$

$$\sigma \times \epsilon = \frac{\alpha}{i} \dots \text{or } 200 \times 5 = 1000.$$

¹ For facility of reference, it may be well to set out the Greek system of alphabetical numerals as employed by their later arithmeticians, bearing in mind that it was not quite identical with the Hebrew or Arabic alphabetic methods. In the Greek system, after the first five letters, which were used to express the first five units, a special sign the 'epistemon' or 'ς' was inserted to represent six. The alphabetical order was then resumed till 'iota' represented 10; from this point the power of the letters rose by tens, κ representing 20, λ 30, and so on until ninety was reached, which was expressed also by a special sign, the 'koppa' or Ϟ; then the ρ represented 100, from which the power of the letters rose by hundreds, thus σ=200, φ=500, χ=600, ψ=700, but the nine hundred had also its own special sign Ϡ, or ζ, termed 'Sampi.' But the thousand introduced a new mode of marking, the power of a thousand being given to the nine first units by inserting an iota beneath them, thus $\frac{\alpha}{i}$ = 1000, $\frac{\gamma}{i}$ = 3000. The tens of thousands were expressed by the

letter M (or Μν) for Μυρ, similarly subjoined to the unit letters, thus $\frac{\alpha}{M}$ = 10,000,

and $\frac{\delta}{M}$ = 40,000. Of the modes of expressing yet higher numbers, whether by octads, or tetrads, or otherwise, mention will be made in the text, and special signs were also used to mark certain fractions. The mode of writing fractions, however, does not bear on the subject immediately under discussion.

$$(II.) \quad \xi \times \sigma = \frac{\alpha}{M} \frac{\beta}{i} \quad \text{or} \quad 60 \times 200 = 10000 + 2000 \quad (12000)$$

$$\xi \times \xi = \frac{\gamma}{i} \chi \quad \text{or} \quad 60 \times 60 = 3000 + 600 \quad (3600)$$

$$\xi \times \epsilon = \tau \quad \dots \quad \text{or} \quad 60 \times 5 = 300.$$

$$(III.) \quad \epsilon \times \sigma = \frac{\alpha}{i} \quad \dots \quad \text{or} \quad 5 \times 200 = 1000$$

$$\epsilon \times \xi = \tau \quad \dots \quad \text{or} \quad 5 \times 60 = 300$$

$$\epsilon \times \epsilon = \kappa \epsilon \quad \dots \quad \text{or} \quad 6 \times 5 = 25.$$

The separate addition of the figures in the several groups gave of course the final result of the operation. Professor Leslie sums up the case at p. 203 thus: "The Greek arithmetic, therefore . . . had attained, on the whole, to a singular degree of perfection, and was capable, notwithstanding its cumbrous structure, of performing operations of considerable difficulty and importance. The great and cardinal defect of the system consisted in the want of a general mark analogous to our cipher, and which, without being of any value itself, should serve to ascertain the rank and power of the other characters by filling up the vacant places in the scale of numeration."

"Yet were not the Greeks altogether without such a sign, for Ptolemy in his *Almagest* employs the small 'o' to mark the accidental blanks which occurred in the notation of sexagesimals."¹

This extract will alone suffice to show that the ancient Greeks were practically ignorant of the employment of the value of position in ordinary arithmetical processes, and knew only a sexagesimal zero, which, though a true zero, was capable only of employment in a few exceptional cases, and was never used with the ordinary decimal arithmetic. They had, however, a system of 'octads' and 'tetrads' for expressing numbers of very high value, which in its methods came very close upon a discovery of the value of position. In fact, it amounted to an assignment of value by position to *groups* of figures, which it failed to give to separate figures, even to those *within* the groups themselves. A further step

¹ The passage in which Sir J. Leslie gives his views as to the origin of this sign is omitted, as the explanation already adopted from M. Woepcke seems, for the reasons he gives, preferable.

towards simplifying the arithmetical treatment of these groups, by dealing with their so-called 'radicals' (or *πυθμένες*), approached even more closely still to the discovery both of the value of position and of the decimal zero.

The octads constituted a method of expressing any high numbers by collecting the alphabetical signs in groups of eight or 'octads,' decimally arranged; that is to say, not only were the figures within the groups decimally arranged according to the ancient Greek method, which was the same as the older Indian, but the groups themselves were placed in regular decimal order, the group of lowest value (which, in fact, bore the normal values of the signs) being placed to the extreme right, that group which was next highest in value standing on the left. Nevertheless the old self-sufficing signs were used *in* the group without value of position. Of the octads, Professor Leslie's article says that Archimedes used the idea to explain how it was possible to denote infinitely great series of numbers, "being aware of the theorem that the product of two numbers will have the sum of its numbers determined by the sum of their separate ranks—a conclusion which he deduced from the nature of a geometrical progression." It is, at the same time, clear that although the mathematical result may have been so presented to the mind of the philosopher, yet he could hardly have invented the actual method of setting it down, had he not been aware of the mode of *writing* numbers according to the decimal arrangement, the origin of which, from the combination of the various methods of speaking and writing, has been already discussed. Professor Leslie goes on to say (p. 196), "The fine speculation of the Sicilian astronomer does not appear, however, to have been carried into effect. Apollonius, who certainly holds among the ancients the next rank as a geometer, revised that scheme of numeration, simplified the construction of the scale and reduced it to commodious practice."

In others words, instead of the cumbrous 'octads,' Apollonius employed 'tetrads,' or groups of 'four' figures. In actually writing the groups, moreover, these were separated

either by brackets or by a point; thus, to take an example of 'tetrads'—

($\rho\nu$) $\xi\beta\pi\delta$ or $\rho\nu.\xi\beta\pi\delta$ stood for 150.7984.

($\alpha\beta\varsigma\alpha$) ($\xi\sigma\iota\delta$) or $\alpha\beta\varsigma\alpha.\xi\sigma\iota\delta$ stood for 1991.5214.

It will be observed that *within* each group the normal method of notation is still retained, and the lowest figure in the second group was exactly one decimal place above the highest decimal place in the group on the right.

The $\pi\nu\theta\mu\acute{\epsilon}\nu\epsilon\varsigma$ were also introduced by Apollonius. Professor Leslie (p. 197) gives the following example, which sufficiently explains their 'character and object.' "Suppose it were required to multiply ' κ ' and ' τ ' or 20×300 . Instead of these, take the lower characters $\beta=2$ and $\gamma=3$ (the $\pi\nu\theta\mu\acute{\epsilon}\nu\epsilon\varsigma$), which were called radicals, and multiply them, the product is the epistemon or ϵ , or six, which multiplied successively by ten and a hundred gives χ or 6000 for the result." After thus explaining the functions of the $\pi\nu\theta\mu\acute{\epsilon}\nu\epsilon\varsigma$, Professor Leslie adds, "As that very important office which the cipher performs by marking the rank of the digits was unknown to the Greeks, they were obliged when the lower periods failed to repeat the letters ' $M\nu$ ' or the contraction of $M\nu\rho\iota\alpha$; thus to signify 37,0000,0000,0000, they wrote $\lambda\xi M\nu, M\nu, M\nu$. Where units (or monads) had to be expressed, Diophantus and Eutocius prefixed the contraction of $M\nu$."

It must be admitted that with the use of the radicals (at least for the purpose of arithmetical calculations), and the use of the myriad signs to represent accumulated places of decimals, the Greeks came within 'almost a measurable distance' of the great discovery of the value of position. Professor Leslie goes on to say, indeed (p. 204), "Had Apollonius classed the numerals by 'triads' instead of 'tetrads,' he would greatly have simplified the arrangement and have avoided the confusion arising from the admixture of punctuated letters expressive of the thousands. It is by this method of proceeding by periods of three figures, or advancing by thousands, instead of tens, that we are enabled

most expeditiously to read off the largest numbers It would have been a most important step to have exchanged these triads into monads by discarding the letters expressive of tens and of hundreds, and retaining only the first class, which with its inserted epistemon, should denote the nine digits: the iota, which signified ten, now losing its force, might have been employed as a convenient substitute for the cipher."

But, though the evidence thus adduced shows that the Greeks came very near the discovery of the value of position, it shows also that they approached it by methods wholly different from that with which the Indians did actually reach it, as was also the case with the knowledge of the decimal zero; but, as has just been said, these very facts militate against the belief that they ever had any real practical knowledge of either one or the other. For they actually approached the complete discovery so very closely in principle, that had they been acquainted with the abstract fact that numbers could be expressed always to any extent by a decimal arrangement of the unit signs only, their progress would hardly have been arrested at the stage to which alone it can be shown to have arrived, and it must ultimately have reached the full perfection of the Indian reformed method.

And while there is no evidence that they ever arrived at this stage of knowledge, there is very strong presumptive proof that they did not, until at least a comparatively late period, for they certainly continued not only to employ the mode of numeration, which, as shown above, takes no real heed of the value of position or of the decimal zero, but it can be shown that they also retained in use methods of arithmetic which were inconsistent with such knowledge.¹

¹ It is hardly necessary here to refer to the supposed discovery announced by Niebuhr (as having been established to the satisfaction both of Playfair and of himself) of the Arabic numeral signs and of the zero (the decimal zero) used according to the true value of position, in a Greek MS. (a palimpsest in the Vatican Library), which is supposed to be of the seventh century. Supposing even the fact as stated to have been correctly ascertained, still so far as the figures themselves and the value of position are concerned, these still might well, looking at the date of the MS., have had an Indian origin, although the discovery would have militated against the comparatively late date which has been assigned

Here it may be observed that Sir John Leslie's paper, as well as that of M. Delambre, on which it is founded, and which is probably to this day the most complete sketch of ancient Greek arithmetic, embraced a complete survey, not only of the arithmetic of Ptolemy, but of that also of his successors and commentators, *e.g.* of Theon of Alexandria (father of the celebrated Hypatia), who flourished in the latter part of the fourth century A.D., and of the still later Eutocius of Ascalon, whose commentaries were certainly not written earlier than the fifth century A.D. No trace, therefore, of the value of position or of the decimal zero, can be found in Greek arithmetic up to that date. The Greek mathematicians were, moreover, early studied by the Arabs. Euclid, Diophantus, and Ptolemy were soon known to them; the *Almagest* of the latter was translated by Thábit bin Korrah, who died in 288 A.H. = 901 A.D., and it can hardly be believed that they were ignorant of the best and latest commentaries on these authors, yet they certainly were unable to discover among them any knowledge of either of these inventions, for, as has been shown, they universally ascribe their acquaintance with them to communications from the Indians, the earliest of which, as we have seen, took place about 776 A.D. Moreover, until just before that date, they continued to use both the Greek alphabetic numerals and the Greek mode of accounting in their books of the public revenue.

If these arguments be conclusive against the possession by the ancient Greeks of a knowledge of either branch of the reformed system of numeration till after a date when its use was already well established in India, the same thing may be practically said of the Romans, whose arithmetic was avowedly derived from the Greek, as shown by the quotation already given from Isidore of Seville. The only ground, indeed for a different opinion, is a passage said to occur in a fragment of the *Geometry* of Boethius, a fuller examina-

to the zero. Professor Spezi has, however, demonstrated by a careful re-examination of the MS. itself, that Niebuhr's decipherment was clearly erroneous, and that in fact the supposed numerals, so far as they are numerals at all, are the ordinary Greek alphabetical numerals. Cantor, pp. 386-388 and note p. 248.

tion of which will be made in connection with the claims of the Neo-Pythagoreans. Neglecting for the present, however, this passage, it may fairly be said that if either Greeks or Romans had a theoretical knowledge even of the value of position, or at least of the possibility of expressing any series of numbers by a distinct arrangement of units only, it was a knowledge justly described by Humboldt as unfruitful. It is, however, quite *possible* that the facts which seem to have suggested its discovery in India were less prominently brought to general notice among the nations of Europe. Of course *if* the abacus was generally used perpendicularly, the idea itself can hardly have altogether escaped notice. But it has been shown that the two Roman instruments which have been preserved seem certainly best adapted, on the whole, for use horizontally, and even the Salaminian abacus appears to have been used in a horizontal position by the person actually working it; and, as the Indian and Chinese instruments have always been so used, it seems likely, at least, that this was the general mode of using the instrument also in Greece, Rome, and Egypt. Even then it seems difficult to believe that the ordinary form of instrument can have been much used without suggesting the discovery. It may be remarked, however, that the scale of the Salaminian abacus is quinary and not decimal, and if that was the usual form of the Greek abacus, it would of course conceal the idea from casual observers. The clumsy Roman notation, too, may in their case have helped to conceal the underlying principle; thus 847,986 written as VIII.IV.VII.IX.VIII.VI. would hardly suggest a decimal succession so clearly as $\eta \delta \zeta \theta \eta \epsilon$. Still after all it is difficult to believe that the abstract idea of the value of position was wholly unknown to the ancients, especially to the Greeks, even though not utilized by them; and perhaps the most probable explanation is that suggested by M. Martin (quoted by Woepecke, *Journal Asiatique*, vol. i. series 6, p. 236): "Ce qui a empêché les Grecs d'arriver à ce changement si simple qui avait été pourtant un perfectionnement notable, c'est qu'ils en étaient précisément trop près pour en sentir vivement le besoin." Indeed, in the new system,

and especially in the new system without the zero, there would perhaps have appeared to the Greeks, at any rate at first sight, no very appreciable advantage over the method which they were already employing, or at least none sufficient to warrant the setting aside that which was familiar to and sufficient for them. Under these circumstances perhaps it would be not very strange if these nations should both alike have failed to take any practical advantage of the value of position, even if known to them as an abstract truth. At least it would be less strange than the fact, which is to this day still a living fact, that a large proportion (even though a minority) of the population of Southern India till this day adhere to the principle at least of the ancient Indian numeration, and neither employ the value of position nor the zero, though these both have been known and used by Hindu races living in close proximity with them, for at least a thousand years, and have been employed among themselves officially for many centuries by the Mahommedan rulers who governed them.

Leaving the classic western nations, however, the next set of claimants for the honour of discovering the modern systems of numeration and arithmetic are the Neo-Pythagoreans, of whom, for the immediate purposes of the argument, it will for the present be sufficient merely to assume that they were a school or sect of philosophers who professed, among other things, specially to represent the disciples of Pythagoras and to preserve or revive his doctrines and teachings. They especially, also, affected scientific knowledge, came into existence really *about* the first century of the Christian era, and, like many other similar philosophic sects, had their head-quarters at Alexandria, in Egypt. So much will suffice for the object of discussing their claim to the original invention, or at any rate to the independent invention of the value of position with all its resulting advantages. Hereafter (in Part III.), when dealing with the share which these philosophers took (and it was a very important one) in the propagation of the new system in the West, it will be necessary to enter somewhat more fully into the history and character of the Neo-Pythagorean sect. Their claims

to the present discovery rest, it may be said, mainly on the allegations of certain mediæval writers, and on the fact that they certainly did possess and teach at a very early period, both the value of position and a set of special ciphers or signs for the units employed, of which, as will be shown, they probably introduced the knowledge into Europe, and which they apparently claimed as an integral part of the Pythagorean teaching, or which were at least supposed to be such by those whom they taught.

These claims received additional force from the discovery during the seventeenth century of certain MSS. of the Geometry of Boethius, containing a description of methods which indisputably involved a knowledge of the value of position, and which were accompanied by certain peculiar signs termed 'apices,' used to represent the units. Both these inventions were unhesitatingly attributed in the MSS. to the Neo-Pythagoreans. Now, as Boethius was certainly put to death in 525 A.D., it is clear that if the MSS. really represent his actual words, they practically decide the question, and show that at this early date the Neo-Pythagoreans possessed both the value of position and the 'apices.' It becomes therefore of great importance to examine this position, and to test it both by external and by internal evidence. That is, external evidence as to the genuineness of the MSS. of Boethius, and the internal evidence as derived from the methods themselves as represented in them. As to the first question, it was soon pointed out by various writers that while the earlier part of the MSS. seem undoubtedly to represent, with more or less accuracy, the real teachings of Boethius, that the latter part of the first book of the 'Geometry' (to which this description belongs) was omitted in several of the MSS. of best authority, and that it was, moreover, couched in language the style of which did not well accord with that of the rest of the work. As to the second question, M. Woepcke also showed in his paper of 1863 that the 'apices,' or peculiar numeral signs used, were really of Indian origin, as was proved not only by their manifest correspondence with the Indian signs, but by their express identification as Indian by an early Arab writer.

The Neo-Pythagoreans used also certain peculiar names for the units, which Radulphus of Laon considered to be of Chaldean origin, and to have been introduced by Pythagoras with the abacus. It will be attempted to show that these too are partly Indian, and all or nearly all of Oriental character, while some of them are certainly far later than the time of Pythagoras, and some of the signs even more modern than those of Boethius himself. Lastly, it will be attempted to show that the peculiar form of the "arcus Pythagoreus" used by the Neo-Pythagoreans is clearly not of Greek but of Oriental origin. In short, it will be attempted to show, not only that there is insufficient proof of the genuineness of the MSS. of Boethius, but that the methods of the Neo-Pythagoreans, as set forth in them and by other mediæval writers, are essentially such as could not have been handed down from the date of Pythagoras, or have (all of them) existed even in the time of Boethius, but that they bear internal and conclusive marks of being derived from the Indian method as it existed just before the invention of the zero.

M. Woepcke, in his paper in the *Journal Asiatique* of 1863, accepting the Indian system as at once completed by the invention of the zero, was led to adopt a curious theory in order to account for the appearance of distinct traces of the new Indian notation, but *without* the zero, in the earliest Neo-Pythagorean methods (*Journal Asiatique*, vol. i. ser. 6, pp. 78, 79, and pp. 243-48). He thus reviews the case:—"En somme, si l'on examine, signe pour signe, les chiffres du Manuscrit d'Altdorf¹ d'une part, et les anciennes initiales des numératifs Sanscrits d'autre part,² la coïncidence des deux suites de signes me paraît telle qu'il est impossible de la considérer comme purement accidentelle. Mais si elle est la conséquence et la marque d'une affinité réelle, elle ne peut signifier qu'une chose, à savoir que les Néo-Pythagoriciens

¹ The MS. of Altdorf is that of Boethius, in which this passage was first discovered in full.

² This refers to Prinsep's theory that the Indian numeral signs were in reality the initial letters of their written equivalents, a theory which has long since been abandoned, and which has been dealt with virtually in the discussion as to Aksharas in Part I.

d'Alexandrie ont reçu de l'Inde les signes que certains d'entre eux employaient dans leurs opérations d'arithmétique pratique.

Je viens de dire que les nouvelles méthodes remplacèrent chez les Arabes occidentaux la tableau à colonnes par l'emploi d'un dixième signe, c'est à dire, du zero Cette circonstance nous permet de nous faire une idée plus exacte de la manière dont les Neo-Pythagoriciens reçurent de l'Inde la forme de leur chiffres, fait que nous révèlent les figures de ces chiffres d'après les documents, placés ci-dessus sous les yeux du lecteur. Il faut en conclure qu'il n'arriva à Alexandrie que des rapports plus ou moins vagues touchant le fait d'une existence de dix signes employés dans l'Inde, et propres à exprimer tous les nombres imaginables, en prenant une valeur de position ; et que ces rapports étaient accompagnés de listes représentant les figures des signes au moyens desquels on pouvait réaliser un effet si extraordinaire. Les Neo-Pythagoriciens cependant, familiarisés avec l'étude des nombres, devaient reconnaître aisément que la même idée se pratiquait au fond sur les machines à compter, en usage depuis longtemps chez les Grecs et les Romains. Il ne pouvaient pas manquer de comprendre que les signes merveilleux de l'Inde étaient le moyen de transformer l'abacus manuel en un abacus écrit, et le syncrétisme Alexandrin amoureux du prestige mystérieux qui entourait les idées et les symboles venus de loin, et surtout de l'Orient, amalgama les figures Indiennes avec les pratiques Grecs et Romaines dans le système de numération et de calcul dont nous trouvons l'exposé dans le passage de Boèce. Mais il faut prouver encore que rien nous empêche d'admettre que l'emploi des dix signes, avec valeur de position, ait existé dans l'Inde et ait pu être transporté de la en Alexandrie, centre de civilisation Néo-Hellénique dans les premiers siècles de notre ère."

If, as it has been attempted to show above, the value of position with the 'abacus écrit' was known in India as early as the very beginning of the sixth century A.D., and if the decimal zero was probably *not* known or in-

vented till after Alexandria was already in the power of the Arabs, and no longer the centre of Neo-Hellenic civilization, or of Neo-Pythagorean philosophy, M. Woepcke's complicated suggestion becomes unnecessary; and the natural deduction, that the Neo-Pythagoreans received the discovery in the precise shape, in which it was actually used in India at the time, affords a simple and sufficient explanation of all existing facts.

This explanation, therefore, it will be endeavoured to support by an examination in detail of the arguments already enumerated above.

It is clear, at any rate, that the older Greeks and Romans cannot be said to have *practically used* the value of position, whatever theoretical knowledge they may have possessed of that method of expressing numbers, except so far as the question is affected by the celebrated passage of Boethius, to the existence of which attention was virtually drawn by Vossius and Weidler during the year 1727 from the MS. at Altdorf.¹

The authenticity, as already said, of this passage has been the subject of much learned discussion, which is very impartially summed up by M. Woepcke at p. 39-44 of his Memoir in the *Journal Asiatique* of 1863. M. Martin, in the *Revue Archéologique* (1856-57), has maintained the genuineness of the passage, while it has been assailed by Mr. Halliwell in his *Rara Mathematica*, as being an interpolation, which is not found in two at least of the best MSS. of Boethius; and this view is confirmed by the criticisms of Lachman and Boeckh, founded mainly on the fact that the language of the whole passage differs entirely from that of the rest of the work. To this argument I would venture to add another, which, if accepted, seems conclusive. It is hardly likely that a mere transcriber should alter the actual numerical signs given by Boethius, as the very signs employed by the Neo-Pythagoreans. They are given, that is, not as showing the signs in current use when the MS. was written, but as those

¹ The passage had been printed as early as 1499, and again in two or three later editions, but in a corrupt and unintelligible condition.

specially belonging to the Neo-Pythagoreans of the time of Boethius himself. Now if we turn to the facsimile of them, which M. Woepeke has given at p. 75 of his *Memoir* in the *Journal Asiatique*, and at p. 10 of his *Memoire sur l'Introduction d'Arithmétique Indienne*, it will be seen that the sign for the cipher 'four' is unquestionably a copy of the *Arabic* form of that cipher; which, again, it has been shown, is a Mahomedan corruption of the peculiar *Northern* Indian or Hindu Kabul form, which certainly was not known to the Arabs, even in its original shape, till 776 A.D., 250 years after Boethius died! The other ciphers, as will be more fully shown hereafter, are all also of Indian origin.

The evidence therefore of this passage, on which so much has been built, can hardly in itself be admitted as showing that Boethius stated that the Neo-Pythagoreans knew and used even the value of position at the date when he lived. But while the statement which has thus been considered cannot be accepted as that of Boethius, or as showing that either the Romans or the Neo-Pythagoreans knew the value of position and the peculiar signs for the units in the fifth century, the general question of the internal evidence to be derived from the Neo-Pythagorean methods themselves remains to be considered, and as to these the MS. of Altdorf affords instruction which is of considerable value. It was probably actually written in the eleventh century, and the knowledge which it claims for the Neo-Pythagoreans may therefore be accepted as that which was really possessed by them at that period, and probably also at a considerably earlier date. This comprised a knowledge of the 'tableau à colonnes,' *arcus Pythagoreus*, or 'written abacus' (involving a knowledge of the value of position), the use of the unit numerals only, the employment of peculiar signs for these (really of Indian origin), and the employment also of these instruments and methods for arithmetical calculation, according to modes based on the principles of modern decimal arithmetic.

¹ See Pl. IV. Table III., where sets of these "Apices" are given from various sources.

The whole system of the Neo-Pythagoreans seems indeed to have been at that time put forward as derived by regular devolution from the teaching of Pythagoras. To what extent this claim was based on the truth, and what part the Neo-Pythagoreans themselves had in its invention, will be discussed in the sequel. It is here traversed only so far as regards the first invention of the arcus Pythagoreus, or written abacus, and the value of position, the use of the forms of arithmetic which that rendered possible, and of the special unit signs.

These signs, it may be remembered, were not always employed, they were replaced sometimes by counters, sometimes by the Greek alphabetical numerals. But the special signs were also known, and owing, no doubt, to their distinctness and incapability of confusion, and to the facility with which they were written, these always were largely employed, and eventually superseded all the other modes of marking numbers, and from them it will be shown that our modern numerals unquestionably descend. It has already been asserted that these Boethian 'apices' are of Indian origin, on the authority of an Arabic work (the Commentary of Al Kalasadi, Woepcke, J. A., vol. i. series vi. p. 38), who particularly says that the Pythagorean signs are identical with those of the Gobar, and that these came from India. This fact will further be established when the forms themselves and their descent from the Indian originals comes under full discussion in Part III. For the present it will suffice to refer to what has just been said as to the late form of the Neo-Pythagorean 'four.' When the derivation of these forms comes to be more fully considered, it will be found to throw much light on the origin and history of the forms themselves and of the system to which they are attached, and even on the part played by the Neo-Pythagoreans in the introduction of these last into Europe, and even on the approximate date of this event. Meanwhile, some attention may be bestowed on another point of some interest, viz. the names bestowed by the Neo-Pythagoreans on their 'apices' or unit signs. These names being entirely different from

those belonging to any European language, have already been the subject of much speculation. It has been seen that Radulphus of Laon so early as the twelfth century assigned both to these names, and to the abacus with which they were associated, a Chaldean origin. As regards the abacus itself, it has been already shown that the assertion is in full accordance with what seems the consistent course of Greek tradition, and there is, *per se*, no improbability in it. Pythagoras is said to have used the abacus to teach his arithmetic, which, in part, at any rate, is described as of Babylonian invention, and the abacus in its very name seems to bear traces of Eastern origin; it was pretty certainly widely known all over the East at a very early date, and it may very possibly have been invented in—at all events it seems to have reached Greece from—Babylon. The system of Pythagoras was, no doubt, the foundation of all the early Greek arithmetic, and was fundamentally the same as that which (though with improved methods) the earlier Neo-Pythagoreans used and taught. There is nothing therefore impossible in the suggestion that some reminiscence, at least, of the names of the Chaldean units may have survived also, though in a more or less corrupted form, to Neo-Pythagorean times. In fact, some of these names have already been pretty clearly identified with those belonging to certain of the Semitic languages, viz. Hebrew and Arabic, and through these may be traced back to ancient Assyrian originals. The whole of the Neo-Pythagorean names of the nine units will therefore now be given (from M. Woepcke's paper in the *J. A.*, mainly taken from the fragments of Boethius; see also notes, Cantor, *M. B.* p. 414), together with the Hebrew, Arabic, and ancient Assyrian equivalents,¹ and an attempt will be made to trace the connexion between these last, and the Neo-Pythagoreans, and to account for the differences when these have no resemblance to their ancient Assyrian or to their Arabic and Hebrew equivalents.

¹ I am again indebted for these (in the form now generally accepted) to the kindness of Mr. Pinches of the British Museum.

NEO-PYTHAGOREAN.	ASSYRIAN.	HEBREW.	ARABIC.
1 <i>igin</i>	<i>ēštin</i> , ¹ <i>ēdu</i> or <i>aḥad</i>	<i>ākhad</i> אחד	<i>ahad</i> احد
2 <i>andras</i>	<i>šana</i>	<i>shanāim</i> שנים	<i>asnīn</i> اثنين or <i>ašnāni</i> اثنائي
3 <i>ormis</i>	<i>šašū</i>	<i>shēlōshah</i> שלשה	(t) <i>ṣalṣ</i> ثلث
4 <i>arbas</i>	<i>arba</i> or <i>irba</i>	<i>arbayah</i> ארבעה	<i>arba</i> اربع
5 <i>quimas</i>	<i>ḥamšū</i> , <i>ḥaššū</i> or <i>ḥauša</i>	<i>khamissah</i> חמשה	<i>khamṣ</i> خمس
6 <i>calcis, caltis</i> or <i>χαλκος</i>	<i>šiššū</i>	<i>shissa</i> ששה	<i>sat</i> ست
7 <i>zénis</i>	<i>sibu</i>	<i>shibah</i> שבעה	<i>sab'a</i> سبع
8 <i>temenias</i>	<i>samnu</i>	<i>shemónah</i> שמונה	(t) <i>ṣamān</i> ثمان
9 <i>celentis</i>	<i>tīšu</i>	<i>tishah</i> תשעה	<i>tisa</i> تسع

¹ 'š' is the Hebrew ש 'sin,' and 's' the Hebrew Sameth or Semcath ס, ḥ is the Arabic ح (rarely ح) and the Hebrew ח (kheth) and on the principle adopted in the Hebrew and Arabic columns, may be read as "kh."

It is to be remembered that the language of the ancient Egyptians was, like the Assyrian, of the Semitic stock, and some of the Assyrian terms for the numerals show strong resemblance to the Egyptian; thus the Assyrian 'sana' two, 'sisu' six, and 'samnu' eight, are palpably the same as their equivalents in Egyptian 'sen,' 'sas,' and 'sesennu.' Even the Assyrian 'arba' four, 'sab'a' seven, and 'tisa' nine, may be perhaps severally identified with Egyptian 'aft,' or 'avt,' 'setech' or 'sevech,' 'secher,' or 'sechev,' and 'peset' or 'psit'; there exists indeed further evidence of this connection, but important as the subject is, it is not possible to pursue it further here. It might be thought that the Neo-Pythagoreans, so closely connected by their founder and by their long settlement at Alexandria with Egypt, may possibly have got these terms direct from the Egyptians, but the 'arba,' 'quimas,' 'temenias,' and still more notably the 'zenis,' so obviously come through the medium of Arabic or Hebrew (in all probability the latter), which themselves descend from the ancient Assyrian, that there seems no room for such an hypothesis.

Now the resemblance between the Neo-Pythagorean 'arbas' and the 'arba' of the Assyrian, Hebrew, and Arabic vocabulary has long since been pointed out, as also that of 'quimas,' with khams and khamissah, which come from the Assyrian 'ḥamšū' or 'khamšū'; so also the 'temenias' of the Neo-Pythagoreans is palpably the Arabic 'tsamán,' and the Hebrew 'shemónah,' which are practically identical with the Assyrian 'samnu' [see Woepcke, J. A., vol. i. series vi. pp. 47-52), quoting MM. Vincent, Martin, Bienaimé, and others]. The 'igin,' 'one,' may perhaps be derived from a hardened form of the Assyrian 'estin,' as in certain Aryan languages the 's' and 'sh' pass readily into 'k' or 'kh,' which again, in the later Semitic languages, is readily interchangeable with 'g,' and the 't' of the root might easily have been dropped for euphony, and thus 'êstin' would become successively 'ektin' or 'iktin,' 'igtin' and 'igin.' Similarly, if the sibilants of 'šiššu' (the Assyrian six) be hardened, it would become 'khikhkhū' or 'khakhkhū,' in Greek $\chi\chi\chi\upsilon$ or $\chi\alpha\chi\chi\upsilon$, and an 'l' introduced for euphony in lieu of the middle χ would make the word $\chi\alpha\lambda\chi\upsilon$, and with a Greek termination $\chi\alpha\lambda\chi\omicron\varsigma$. It is possible that even 'celentis' may come from 'tisu' by some such process, at any rate there is no better derivation for it;

"Mais il faut avouer aussi,
qu'en venant de la jusqu'à ici,
il a bien changé sur la route."

It is clear, however, that if the sibilants which prevailed in the old Assyrian terms were all to be hardened after the same fashion, the result would be too great a similarity between the names of several of the units. For example, the result in the case of Assyrian 'salšū' or three would be actually identical with that arrived at in the case of the 'šiššu' or six. The Neo-Pythagoreans would seem, therefore, to have sought elsewhere for appellatives to fit the 'two,' the 'three,' and the 'seven.' The name they adopted for the latter, Ζηνις or 'Zenis,' is nothing but the transliteration into Greek letters of the Hebrew or Arabic word 'zain,' which in those lan-

guages designates the letter 'z,' and z being the seventh letter of their alphabet, has, when used as a numeral, the power of 'seven.' This fact shows clearly that in this instance the Neo-Pythagoreans borrowed from one or other of the Semitic languages which employ the comparatively recent form of *alphabetic* numerals. The equivalents chosen for 'two' and 'three' by the Neo-Pythagoreans are even more instructive still, for they prove almost conclusively that the Neo-Pythagoreans had access to Indian sources and made use of them. At least the nearest, indeed the only parallels of the Neo-Pythagorean 'two,' 'Andras,' and of the Neo-Pythagorean 'Ormis' or 'three,' in any known language, are the Tamil¹ 'Iranḍu' and 'Munru,' 'two' and 'three' respectively, and the resemblance is here so close that it is hardly to be doubted that the Neo-Pythagoreans did adopt these terms from a Southern Indian source. Prompted by the 'synchrétisme Alexandrin,' as M. Woepcke describes it, "amoureux du prestige mystérieux qui entourait les idées et les symboles venus de loin, et surtout de l'orient," the Neo-Pythagoreans seem to have followed, as far as they could, the traditional Pythagorean names, and when these could not conveniently be clad in a Greek dress, they went to other Oriental sources to supply the deficiency, and amalgamated all into one cabalistic and mysterious series. As will be shown hereafter more fully, such an arrangement was exactly in accordance with what might have been expected of them.

Less stress need be laid on the similarity of the methods of the Neo-Pythagorean arithmetic with those of the earlier Indian methods as shown in Alkhwárizmí's methods; for both are simply the natural methods of working the value of position by the Arcus Pythagoreus, but there is *one* peculiarity of the latter table, as used by the Neo-Pythagoreans, to which attention must be drawn, as being in all probability a mark

¹ It may be objected that these words might have come not directly from the Tamil, but from some older Dravidian form lingering more to the West. But the words for 'two' and 'three,' in what are deemed the older Dravidian tongues, such as the Biluch, differ almost wholly from "Andras" and Ormis. The Malayalam approaches rather more closely, but the Tamil affords the nearest analogues.

of its Oriental derivation. This is the fact that its columns were connected together in groups of 'threes;' *i.e.* the columns for units, tens, and hundreds are collected under one semi-circle, and those for the thousands, tens of thousands, and millions, under another arc or semi-circle, and so on. It is this grouping by 'triads' which Dr. Cantor calls the "Roman method," and he points out the distinction between this method of grouping and the ancient Greek method of grouping by 'octads' or 'tetrads.' But it seems to be found at an early period in Oriental countries, whither it could hardly have come from *Rome*, and where an explanation of its use is found in the passage already quoted in Part I., from Sibth al Máridíni, to the effect that *the* primitive mode of reckoning comprised only units, tens, and hundreds, a remark which it has been said appears to refer to the ancient Phœnician non-alphabetical mode of numeration, and its derivatives (chiefly Asiatic), in which there was no *separate* symbol for any number above the hundreds, all others being expressed by *groups* of numbers.¹ It is clear that if the Arcus Pythagoreus had been of Greek parentage, the grouping would naturally have been rather by 'tetrads' or 'octads,' and that this peculiarity of its structure is therefore a palpable indication of its Oriental origin.

It is indeed this Neo-Pythagorean method of grouping in triads on the Arcus Pythagoreus, that has given rise to our modern method of similarly grouping numbers in triads, by commas or dots, for facility of calculation, as, for example, when we write 469,367,000.²

To sum up the case, therefore, the Indian claim to invention of the value of position and the zero rests first on the distinct and direct testimony of Arab historians, and other Arab writers, to that effect; on the certainty that it was practically used by the Indians at a date considerably anterior to that at which it can be really shown to have been used by

¹ The limit may be a survival of the primeval plan of counting by groups, but this question cannot be discussed now.

² That this trinal mode of grouping is a point of some importance may be seen from Professor Leslie's words already quoted on p. 50.

any other people; and the Indian claim to the 'zero' rests on exactly similar grounds. But the invention of the 'zero' was probably subsequent to the other, inasmuch as for all public and official purposes the old system of notation was certainly used in India long after the value of position was known, as would naturally be the case if the former was first known without the zero, and capable of employment only with the 'tableau à colonnes.' Moreover, the Indians appear, from the methods in which their early arithmetic was cast, thus to have used the value of position at first on a 'tableau à colonnes,' which would not have been necessary if they had simultaneously discovered the zero. Again, the use of the tableau à colonnes in Persia, and especially on the immediate confines of India, at a very early date, had already induced M. Rodet to suggest that this contrivance had its origin in India. In addition to these facts, all the many terms by which the 'zero' is known, seem to be derived from the 'place vide' or 'tableau à colonnes,' and can hardly have designated anything else. Moreover, systems of numeration still actually exist in India, which seem to show the intermediate step by which the invention of the zero was apparently suggested, viz. the substitution of unit signs, differentiated by the sign for 'ten,' in replacement of the arbitrary and cumbrous signs for the powers of 'ten' of the older Indian system. Lastly, the ancient forms of the sign for 'ten' seem to have been retained to a late period by Arabic writers, in order to represent at least the sexagesimal or Ptolemaic zero, the Greek sign for which had (perhaps on account of its more convenient form) been apparently adopted at a very early period to replace, as the sign of the decimal zero, the clumsier forms of the old Indian sign for ten.

The ancient Greeks, whether they knew or did not know, as a mere abstract and curious scientific fact, the power of the unit signs arranged in decimal order to express any series of numbers, at any rate made no practical use of the fact; and though they had a sexagesimal zero, it is clear they never had a decimal zero. Their leading arithmeticians neither used nor taught the use of either invention down to the sixth century,

by which time the value of position at least was well known and employed in India. Indeed, it is clear that the Greeks knew or at least used neither commonly, down to the middle of the seventh or beginning of the eighth century; for, as has been shown, up to the latter period their Arab conquerors were avowedly content to copy in their public accounts the Greek notation, which they found in use in Syria and Egypt, and which they afterwards distinguished from the new notation by describing the latter as '*Indian*'; and by the beginning of the eighth century the Indians had already commenced (or were on the point of doing so) the general use of the nine units *with* the zero.

As regards the Romans, too, it has been shown that their arithmetic was at least in principle borrowed from the Greek, through Apuleius and Nicomachus; and there is nothing beyond the so-called passage of Boethius on which any separate claim on their behalf to a knowledge of the value of position can be sustained. If, for the reasons given above, that passage is admitted to be the spurious interpolation of a much later writer, then the claims of the earlier Romans must stand or fall with those of the early Greeks. In discussing hereafter the real claims of the Neo-Pythagoreans, in connection with these discoveries, it will be necessary to notice the old Pythagorean methods somewhat more fully; for the present it may suffice to sum up the case by saying that there is no trustworthy evidence to show that the Greeks or Romans knew the *use* even of the value of position, down to the time when, in India, both that and the zero were alike known and used.

No doubt, as will be shown, it is probable that about this time the Neo-Pythagoreans learned at any rate the value of position; but as it was palpably unknown to the older Greek and Roman writers, it is not from them that the Neo-Pythagoreans could have derived their knowledge. Nor is it probable that it was from any esoteric tradition handed down from Pythagoras or his immediate successors that this knowledge can have come. The whole school of Pythagoras, old and new, seem especially to have devoted themselves to

the teaching of mathematical science, and it is hardly likely that doing so they should have concealed its best processes, and kept them for esoteric use. Nor, indeed, if they had wished to do so, could these inventions well have been handed down for many centuries without being ever divulged or employed for vulgar use.

If then the Neo-Pythagoreans cannot be shown to have derived them from any earlier Western source, can the invention have been made by them independently? Unquestionably the value of position as an invention might well have been independently discovered by two or more sets of persons in possession of all the antecedent conditions, those which have been set out at length in the beginning of this paper, and which the Greeks and Neo-Pythagoreans possessed in common with the Indians. But, as a matter of fact, they did not apparently know, or use the invention, until a date by which they might well have obtained it from India, and for this (as will be shown presently) ample facilities existed.

Again, when it appears first in Neo-Pythagorean hands, the new method is accompanied by various signs and tokens of Oriental, and indeed of Indian origin. The 'apices' or signs which the Neo-Pythagoreans claim as their special property, are certainly Indian in their form; this is shown not only by the direct evidence of Greek and Arab writers, but also by the internal evidence of their shapes, as will presently be more fully proved. Moreover, the Neo-Pythagoreans employ for these signs and for the units certain quasicabalistic names, all, or nearly all of which, are apparently of Oriental descent, and, in two cases, of distinctively Indian derivation.

M. Woepcke, as has been seen, pressed by the difficulty that the Neo-Pythagoreans at first seem to have been unacquainted with the zero, but to have known only the value of position, and as he held the belief that the Indian reform included from the first a knowledge of the zero, was induced to invent a theory supposing a partial acquisition of the discovery from India by the Neo-Pythagoreans, supplemented

by a partial re-discovery on the part of the Neo-Pythagoreans themselves of the use of the nine units on the abacus. If, however, as it has been attempted to demonstrate, the first Indian invention did *not* include or employ the zero, while in all probability it did in its first stage and for some time later employ the 'arcus Pythagoreus,' the very form of which really attests its Oriental derivation, then M. Woepcke's theory is no longer needed to reconcile the undoubted facts. Indeed these will, more clearly than ever, favour the theory of a direct importation from India. The Neo-Pythagoreans in short will be found to have used in their early state of knowledge only what the Indian writers knew and taught in the first stage of their discovery, and to have used it, not with Greek forms, but with those derived altogether from Oriental, largely from Indian, sources. Under these circumstances it does not seem extravagant to claim the credit of both stages of the invention for the Indians. To the Neo-Pythagoreans, on the other hand, belongs the merit of the first introduction of the reformed method into Europe, and this it will be the main purport of the concluding part of this paper to trace out and discuss. But both the new notation, and the improved arithmetic which it rendered possible, were pretty certainly both Indian in their inception. Indeed it may be said that they were both fully developed in India, for the final shape in which the common arithmetical processes appear to have been transmitted from India, viz. those which Leonard of Pisa expressly distinguishes as 'Indian,' really left but little for European mathematicians to improve, so far as the processes themselves extend.

There is nothing to show to what individual, or individuals rather, we owe these reforms. In the passage of Masaudi already quoted, there is an allusion which seems to be intended to designate Aryabhāta; but if this be its meaning, it seems rather to indicate him as the great teacher of the new system (which he seems to have been) rather than its inventor; further than this our present knowledge does not enable us to go. But whoever the separate discoverers of the use of the value of position and of the 'zero' may have been, it is hardly

too much to say that their inventions have probably done more than any others—not perhaps excepting even those of printing and of the steam engine—to advance the progress of scientific knowledge and of material civilization. Had modern students been confined to the lumbering processes of the older Greek arithmetic, it would hardly have been in their power to work out the intricate calculations on which our astronomy, chemistry, mechanical knowledge, indeed all branches of scientific knowledge and research, so largely depend.

It has, however, been here attempted to identify, if not the individual inventors, the nation to which they belonged; and it may be perhaps said that it is possible to indicate within certain wide limits the locality of its birth. As has been seen, even to this day, the new system is not accepted by a large minority at least of the inhabitants of Southern India, and it can therefore hardly have been indigenous there. It was for a long time also unknown in the extreme East, in the hills for example of Nepál. The inscriptions which Dr. Bühler has published from that province show clearly that the older system of notation remained long in use there, after the new one had been established elsewhere. It may be said therefore that the reform of the old system must have arisen north of the Vindhya and west of the Himalayan ranges. On the other hand, the peculiar shapes of the numerals associated with the new system in the earliest inscriptions seem to make it at least probable that it did not arise amongst a race who used the Northern Indian forms. It may be said, therefore, that the reform was matured and perfected south of the Indus. If any portion of the credit is to be assigned to Aryabhāta as regards the value of position—then, since he was a native of Kausāmbhi—it is possible that this portion of the discovery arose somewhere in ‘Madhya-désa,’ *i.e.* in the valley of the Ganges and the Jumna. On the other hand, if the conjecture as to the connection of the first suggestion of the zero with the notation of the Gupta era is admissible, then this final step may, as has already been said, have belonged to Western India, and this is the rather probable as all the

earliest instances of the use in inscriptions of the new system, have come from places in the neighbourhood of the western coast, as Okamandal, Bharuj, Morbi, etc.

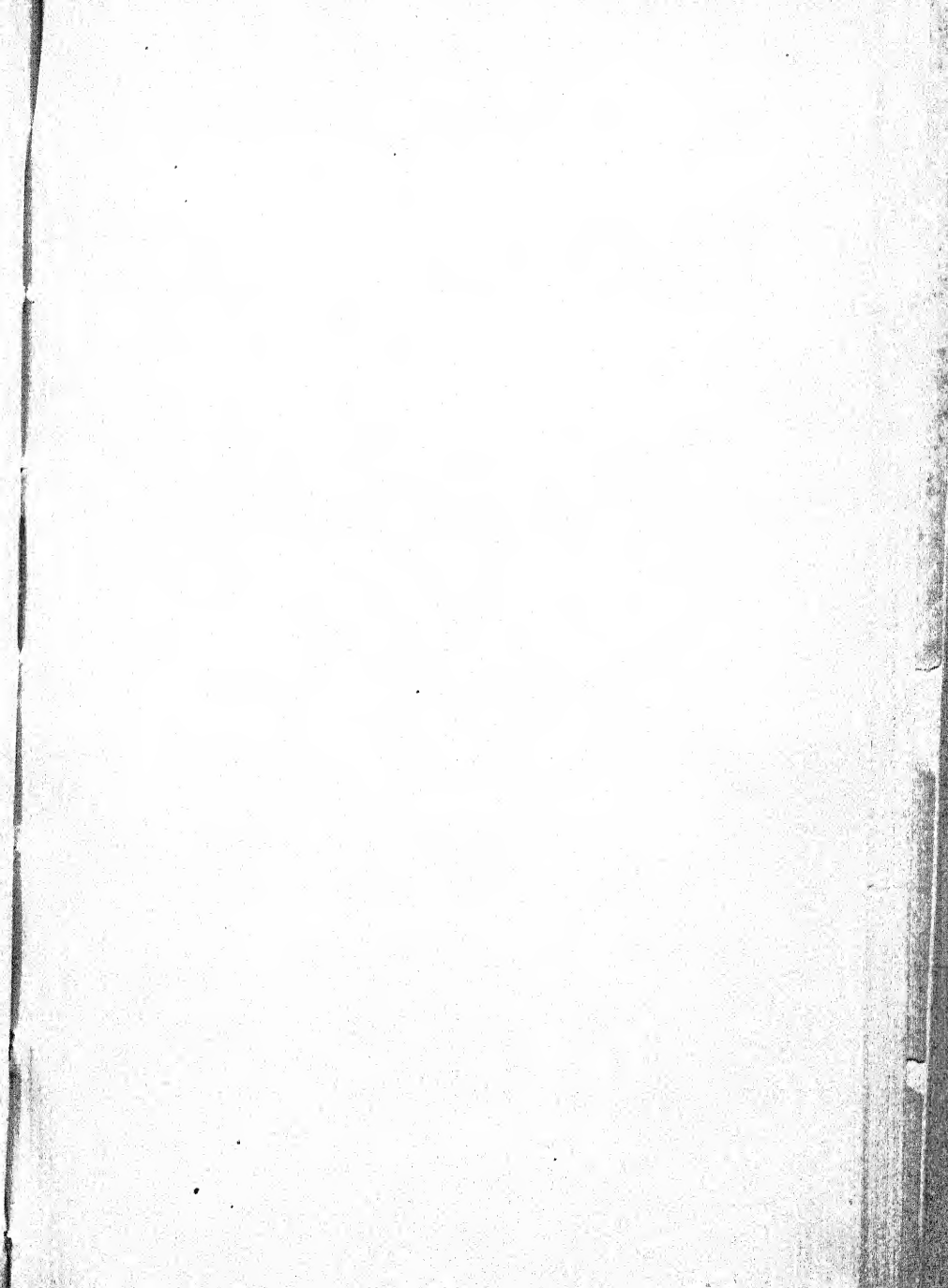
This point, however, is not material to the general course of the history of the Indian numerals and of the peculiar arithmetic with which they are associated. They have now been traced from their first origin down to a stage at which they may be called practically complete. If the arguments used in this paper are correct, this stage has been reached, as in the case of almost all other important discoveries, by a process of gradual evolution.

The semi-savage, who counted upon his fingers and recorded the results of his calculations in rows of mere scratches upon the sand, gave the first hint of the abacus. So the rude numeral signs composed of groups of simple lines themselves were gradually superseded by other more compact and convenient symbols. These, applied to the abacus with its primitive decimal system, led to the discovery of the value of position. Out of this again arose the Arcus Pythagoreus or 'written abacus,' with its accumulation of various series of numbers; and from this, in quick succession, came the new methods of decimal arithmetic; and lastly the invention of a sign to fill the 'place vide,' the 'śūnya' or 'zero'; and the zero finally released the new notation and arithmetic from the trammels of the abacus, and rendered them perfectly applicable to all the purposes of social life.

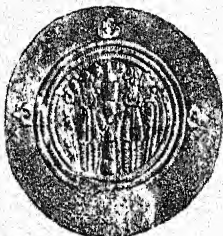
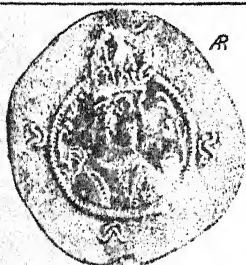
In Part III. it will be attempted to trace by external evidence, how in all probability the Neo-Pythagoreans received in Egypt the Arcus Pythagoreus and the value of position without the zero, probably not very long before the Neo-Hellenic civilization of that country, and specially that of Alexandria, was overthrown by the Arabs. After this it will be attempted to demonstrate more particularly than has hitherto been done the connection of their numeral signs with those of the Indian system, and to indicate also the part played by the Arabs in the introduction of the zero, and in the formation of the 'Gobár' numerals.

In conclusion, it will be endeavoured, by a comparison of

the Indian signs with those of the other derivative systems, to throw some light on the period at which the latter were received from India, and thus by the internal evidence of the signs themselves in some measure to corroborate the conclusions drawn from other testimony as to the channels and period of the propagation of the new discoveries among the nations of the West.



INDO - SASSANIAN COINS.



ART. II.—*Parthian and Indo-Sassanian Coins.* By EDWARD THOMAS, F.R.S.

THE design of this paper, in the first instance, was confined to the description of a remarkable coin, communicated to me, in photograph, a year or two ago, by M. Wold Tiesenhausen, whose comprehensive work on "*Les Monnaies des Khalifes Orientaux*"¹ placed him in the front rank of Oriental Numismatists. Subsequently, the owner of the piece, M. le Comte S. Stroganoff, was so good as to risk the dangers of International Postal deliveries, and to send me the original coin itself for more exact and critical scrutiny.

Up to this period the pages of the Journal of the Royal Asiatic Society have been claimed for more popular subjects; so that it is only now, that I have an opportunity of presenting this notice to the Society. The incidental delay has, however, enabled me to follow out, in some detail, another though later division of the history of proximate lands, as represented by the Sassanian and post-Sassanian intercourse with the classic sites of the Zend Avesta and Sháh Námah, on and around the waters of the "splendid" Helmand.²

The leading example of the former class of coin (No. 1) now presented, in the shape of a conscientious wood-engraving by Mr. Adeny, indicates a considerable advance on the previously published legends and the contested interpretations of No. 2 of the same series.

The reverse face of No. 2 has, likewise, been re-engraved for the illustration of this article, in order to exhibit frankly all possible discrepancies between the earlier and later read-

¹ Text in Russian, St.-Petersbourg, 1873, folio.

² Vendidad, 19th Fargard, "I praise the zone Qanirathem, the splendid Hétumat, the brightly shining, the beautiful."—Haug, p. 217. See also Anquetil, *Zend Avesta*, i. (2) p. 268, ii. 392.

ings. I have been careful not to interfere with the artist (Mr. Balcomb), who drew with his usual skill the outlines of both the new cuts on the wood, as I have been anxious that the eye and the hand of the engraver should be left free for public criticism, undisturbed by any tendencies or theories of my own. But I must distinctly uphold the justification of Mr. Gardner's first reading¹ of the *P* in *HPAOT* on the margin of No. 2, which has been lost sight of or rather transposed in the new design.

In the same way, few of us, expert numismatists or mechanical art copyists, can be certain about the true form of the second figure or monogrammatic combination of letters, which succeeds the large *A* in the field in either instance.

The woodcut of the third coin in the present list was executed in St.-Petersbourg, and though apparently slightly hard in its obverse outline, seems to follow, with mechanical precision, the straggling forms of the debased reverse of its congeners. I have not seen the coin itself.



No. 1. Silver. M. le Comte S. Stroganoff.

Obverse.—Head of Scythian king, to the right, uncovered, but the loose hair is encircled by conventional classic fillets, and the neck seems to be protected by swathed folds of cloth?

Reverse.—Horseman to the right, with bow-case or quiver carried at the rear of the right thigh. Small winged figure of Victory crowning him, in Parthian fashion, from behind.

¹ Numismatic Chronicle, n.s. vol. xiv. 1874, p. 161. General Cunningham likewise read the name, in the first instance, as *HPAOT* (Journ. As. Soc. Bengal, 1862, p. 425), but he now tells me that he prefers the initial letters *MI*, and proposes to date the coins in about 50 B.C.

Legends—*Margin*.—ΤΥΡΑΝΝΟΤΗΤΟΣ ΗΑΟΥ ΚΟΙΡΑΝΟΥ.¹

Below the legs of the horse—ΣΑΝ.

In the field, in front of the horse—ΑΣ? in larger letters.

The second symbol of this group is as uncertain in the original piece as it is in either of the woodcuts.



No. 2. Silver. British Museum.

Obverse (original cut).—King's bust, similar to No. 1.



Reverse (Second copy).—Scythian horseman, as above.

Legends—*Margin*.

ΤΥΡΑΝΝΟΤΗΤΟΣ ΗΑΟΥ
ΚΟΙΡΑΝΟΥ.

Between the horse's legs, ΣΑΝ.

In the field, in front, ΑΒ?

¹ "Τύραννος, strictly Doric for κοίρανος, from κύρος, κύριος, a lord, master." The editors add, "The term rather regards the way in which the power was *gained* than how it was *exercised*, being applied to the mild Pisistratus, but not to the despotic kings of Persia." (Liddell and Scott.) The ancient Persians must have been fully conversant with the use and meaning of the term, in the 'Ελληνιστικῶν μὲν τύραννοι of Darius, referred to by Herodotus, iv. cap. 137, who elsewhere seems to admit that its interchange with βασιλεὺς was optional and unimportant. Objection has been taken in the Indian Antiquary (1881, p. 215) to this simple interpretation; but is it not probable that the critically relied-on Χορὰν Σὺ, etc., are degradations rather than leading forms?

I had speculatively suggested that the second letter in the field—as it was supposed to stand alone but omitted in the first drawing—might constitute the mint-mark for Drangia; but the appearance of the second letter on No. 1 seems to indicate that it must be read in combination with the more prominent *A*, whether as a date or a combined mint-mark has still to be determined.

The great interest which was felt among Numismatists on the first publication of coin No. 2 arose from the supposition that the letters below the horse's legs might be read continuously as *ΣAKA*. The new coin No. 1 puts an end to this delusion, not only in severing, both in size and emplacement, the final *A* from the preceding three letters, but in the association of a second Greek letter or figure in its *quasi*-monogrammatic isolation, in the open field of the device. It likewise determines, conclusively, that the third of the smaller letters must now be received as an *N*, in lieu of the previously doubtful *K*, whose malformation sufficiently authorized the first tentative interpretation. Thus giving us, in compact letters, the word *ΣAN*, the exact counterpart of the Bactrian *𐭮 san*, which, in its abbreviated form of the full term of *Samvat*, so invariably precedes the date in the numerous lithic and other inscriptions in the *Bactrian Pāli* character found in the Punjāb and elsewhere.¹ The same word, in parallel cases, reappears in the *Indian Pāli* inscriptions of proximate date at Mathura, as *सं san*, and *संवत्सर samvatsara*, either term being, so to say, indifferently employed.²

The Bactrian *𐭮 san* occurs in numerous instances on the coins of *AZAZ* and *AZIAISAZ*, evidently carrying, primarily, a like significance,³ though the complicated Indo-Bactrian monograms succeeding it do not as yet admit of satisfactory explanation, even if, in some cases, the word is not left to stand alone, with an unfilled-in sequence. A possible

¹ Prof. Dowson, J.R.A.S. o.s. Vol. XX. pp. 221, 232, etc.; Prinsep's Essays, vol. i. p. 145.

² Ancient Inscriptions from Mathura, Prof. Dowson, J.R.A.S. n.s. Vol. V. p. 182.

³ Prinsep's Essays, vol. ii. pp. 205-211; *Ariana Antiqua*, pl. vii. 3, 13, viii. 6.

mechanical record, whose traditions have been preserved to our time in the سنوات *sanwât* or *sonât* rupees—whose commercial value was determined, *in situ*, by the very date itself—and which we accepted as an inheritance from the Mughal Emperors of India in our 19th *san* coins.¹

I have shown in a previous paper, on “Bactrian Coins and Indian Dates,”² that the earlier Græco-Bactrian Kings followed the reckoning of the Seleucid era in the official dating of their coins. This view has since been largely adopted by Indian Archæologists, and it continues to receive support from many incidental sources; among the rest, Prof. Jacobi has pointed out the curious coincidence of the date of the *abhisheka* of Chandra Gupta, in its bearing upon *Jaina* epochs, with the parallel 312 B.C. of the Greek chronology.³

¹ Prinsep's Essays, ii. U.T. p. 72. Regulation 1773 A.D.

² J.R.A.S. Vol. IX. x.s. 1876, p. 1.

³ Kalpa Sûtra, Leipzig, 1879, p. 8 :

“These verses (reproduced at p. 15, J.R.A.S. Vol. IX. 1876, from The Indian Antiquary, vol. ii. p. 362), which are quoted in a very large number of commentaries and chronological works, but the origin of which is by no means clear, give the adjustment between the eras of Vira and Vikrama, and form the basis of the earlier *Jaina* chronology.

The sum of years elapsed between the commencement of the era of Vikrama and the reign of the Mauryas, as stated by the verses just quoted, is $255 = 4 + 13 + 40 + 60 + 30 + 108$. By adding 57, the number of years expired between the commencement of the Samvat and the Christian eras, we arrive at 312 B.C. as the date of Chandra Gupta's *abhisheka*. The near coincidence of this date with the date derived from Greek sources, proves that the Vikrama of the 3rd verse is intended for the founder of the Samvat era (57 B.C.), and not for the founder of the Śaka era (78 A.D.), because on the latter premiss Chandra Gupta's *abhisheka* would date 177 B.C. The reigns of Pālaka (60) and of the nine Nandas (155), in sum 215 years, make up the interval between Chandra Gupta and the Nirvāṇa; adding 215 to 312 B.C., we arrive at 527 B.C. as the epoch of Mahāvira's Nirvāṇa, differing by 16 years from the Nirvāṇa of Buddha, according to the chronology of Ceylon, or 543 B.C.”

Another account states that “155 years after the liberation of Mahāvira, Chandra Gupta became king.” Adding 155 to 312 B.C. “we find that the Nirvāṇa of Mahāvira would fall in 467 B.C.”

Dr. Bühler, in the Indian Antiquary (vol. ii. p. 363), notices a point of much importance in the history of Indian dates, viz. that the *Jaina* sect of Svetambaras date in the Vikramaditya era, while the Digambaras make use of the Śaka era; and that the parallel systems each give the return of 526 B.C. for Mahāvira.

Prof. Jacobi adds in a note, “I call attention to the fact that this date of Chandra Gupta's *abhisheka* coincides with the beginning of the Seleucid era. Mr. Ed. Thomas (Records of the Gupta Dynasty in India, pp. 17, 18) believes that the Seleucid era maintained for a long time its ground in Upper India, etc. If the correctness of Mr. Thomas's theory could be demonstrated by direct proof, it would be easy to account for the rather puzzling fact that the *Jaina* date of Chandra Gupta's *abhisheka* comes so near to the truth.”

It will be remembered that Wilford, in vol. ix. pp. 94, 98, Asiatic Researches,

The recently-discovered coins of the Bactrian Greeks have not much advanced our direct proofs; but I preserve a note of the sale of Gen. Smee's coins in July, 1878 (No. 368 of the catalogue), of pieces of Antimachus *Theus*, bearing respectively the numeral letters *PK* and *KP*, indicating alike the year 120 of the era of the Seleucidæ or B.C. 192, a date which might well fit-in with the archaic character of the treatment of the devices of his issues, and his other claims to a contemporaneous exercise of authority in subordination to Diodotus himself.¹

The speculative date of Antimachus Theus, obtained from the collocation of the dynastic lists of the Bactrian kings, by Gen. Cunningham, was fixed so long ago as 1842 at 190 B.C.²

His immediate or deferred connection with Diodotus is testified-to by the joint legends on coin No. 4, in the sub-joined list of the associated potentates of the earlier Bactrian period.

1. Agathocles in subordi- } Obv. ΔΙΟΔΟΤΟΥ ΣΩΤΗΡΟΣ.
nation to Diodotus } Rev. ΒΑΣΙΛΕΥΟΝΤΟΣ ΑΓΑΘΟΚΛΕΟΥΣ ΔΙΚΑΙΟΥ.
2. Agathocles in subordi- } Obv. ΕΥΘΥΔΗΜΟΥ ΘΕΟΥ.
nation to Euthydemus } Rev. ΒΑΣΙΛΕΥΟΝΤΟΣ ΑΓΑΘΟΚΛΕΟΥΣ ΔΙΚΑΙΟΥ.
3. Agathocles in subordi- } Obv. ΑΝΤΙΟΧΟΥ ΝΙΚΑΤΟΡΟΣ.
nation to Antiochus } Rev. ΒΑΣΙΛΕΥΟΝΤΟΣ ΑΓΑΘΟΚΛΕΟΥΣ ΔΙΚΑΙΟΥ.
4. Antimachus Theus in } Obv. ΔΙΟΔΟΤΟΥ ΣΩΤΗΡΟΣ.
subordination to Dio- } Rev. ΒΑΣΙΛΕΥΟΝΤΟΣ ΑΝΤΙΜΑΧΟΥ ΘΕΟΥ.
dotus

I hear that General Cunningham has found, in his own cabinets, confirmatory examples of the dates previously cited by me, *i.e.* *OF*=73 for 173 Seleucidæ, or 139 B.C. for the reign of Eukratides, and *III*=83 for 183 Sel., or B.C. 129 for the reign of Heliocles. And, I may add, that I am given to understand that Gen. Cunningham fully concurs with me,

1807, first detected the curious coincidence "of the expiation of Chánacya," and "the accession of Chandra Gupta to the throne," in 312 B.C., as "a famous era in the chronology of the Hindus."

¹ J.R.A.S. Vol. IX. p. 5.

² Prinsep's Essays, vol. ii. p. 175. Numismatic Chronicle, 1842, *Table of Dynasties*, p. 175. See also his later papers in the same Journal, vol. ix. n.s. p. 38.

alike in the definition of the numbers and their application to the era of the Seleucidæ.

I have more than once had to refer, in the pages of our Journal, to the contrasted import of the simple title of *ΒΑΣΙΛΕΥΣ* as distinguished from the relative term *ΒΑΣΙΛΕΥΟΝΤΟΣ*. As may be seen from my recapitulation in Vol. XX. 1863, o.s. p. 126, there were at that time divided opinions on this subject. But I am sanguine enough to suppose that the instances supplied by the Bactrian coins themselves, collocated by me at page 19, Vol. IX. n.s., and now reproduced in outline results above (p. 6), may be held to have set this controversy at rest, in establishing the subordinate intention or practical application of the latter designation.

So, also, with the parallel intitulation of *ΤΥΡΑΝΝΟΝΤΟΣ*, which appears on our coins, there could be little doubt but that it implied something short of absolute regal status; and a curious confirmation of this inference has lately been contributed by Canon Rawlinson's "Sixth or Parthian Monarchy,"¹ in a passage where Himerus is described by Posidonius as τὸν τυραννίσαντα βαβυλωνίων under Phraates, a position which is more directly defined by Justin (xlii. 2. sec. 3) as the "*vicarius*" of Phraates.

In another publication² I have had occasion to examine the supposed identity of the owner of our coins (Nos. 1 and 2) with the Bactrian King Mauas, and the conclusion that I arrived at may be recapitulated briefly in the following terms:—

As regards the typical details, the contrast between the emblematic devices of the coins of Mauas and our new king is most apparent. Mauas has no coins, with his own bust, among the infinite variety of his mint issues, nor has the Bactrian Azas, who imitates so many of his emblems. But, in the Gondophares group, we meet with busts and uncovered heads and loose hair simply bound by fillets, in

¹ P. 108.

² The Epoch of the Guptas in India, p. 36; Archæological Survey of Western India for 1874-5, London, 1876, p. 51.

which arrangement, the *chevelure* Pakores, with his flowing curls, follows suit. But the critical test in this case is furnished by the small winged figure of Victory seeking to crown the horseman on the reverse, which is so special a characteristic of Parthian Numismatic die-illustration.

We have frequent examples of quasi-Angels, or types of Nike with offertory regal fillets in the Bactrian series; but these figures constitute, as a rule, the main device of the reverse, and are not subordinated into a corner, as in the Parthian system. The first appearance of the winged figure with chaplet in direct connexion with the king's head in the Imperial series, occurs on the coins of Arsaces XIV., *Orodes* (B.C. 54-37), where the crown of conquest is borne by an eagle,¹ but on the reverses of the copper coinage, this duty is already confided to the technical figure of Victory.² Arsaces XV., Phraates IV. (37 B.C.-4 A.D.), continues the classic eagles for a time, but his modifications progress into single³ and finally into double figures of Victory, each eager to do him honour,⁴ as demonstrating his successes against Antony and the consequent annexation of the kingdom of Media.⁵

Henceforth these winged adjuncts disappear from the Parthian programme, so that, if we are to seek for the prototype of the new coins amid Imperial Arsacidan models, we are closely limited in point of antiquity, though the possibly deferred adaptation may be less susceptible of proof.

Supposing this adoption, however, to have been contemporaneous, the dates B.C. 37 to A.D. 4 will mark the age of Nos. 1 and 2, whereas the Bactrian Moas is speculatively assigned to the much earlier period of from 126 to 100 B.C.⁶

¹ Lindsay, *History of the Parthians*, Cork, 1852, pl. iii. fig. 2, pp. 146-170; *Trésor de Numismatique*, pl. lxviii. fig. 17.

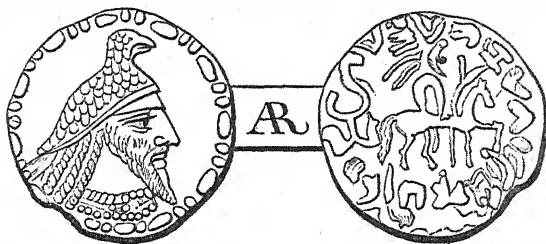
² *Ibid.* pl. v. fig. 2, p. 181.

³ *Ibid.* pl. iii. fig. 60; v. fig. 4, pp. 148, 170; *Trésor de Numismatique*, pl. lxviii. fig. 18; pl. lxix. fig. 5.

⁴ *Ibid.* pl. iii. figs. 61-63.

⁵ Lindsay, p. 46; Rawlinson, *The Sixth Monarchy*, p. 182.

⁶ Wilson, 100 B.C.; Lassen, 120 B.C.; Cunningham, after 126 before 105 B.C.; Prinsep's *Essays*, vol. ii.



No. 3. Silver. Hermitage St.-Petersbourg.

Obverse.—King's head, with cap or crown similar to the head-dress introduced by Sapor I., surmounted by an eagle's head.¹

Reverse.—Horseman to the right, traces of eagle monogram at the back. *Legend*.—In front *AZVΛOC Azilisās*? below the horse. מלכה. *Malka*?

No. 3 belongs to a class of coins described by me, in a previous Number of this Journal, under the heading of "Indo-Parthian."²

Its novelty consists in the curious style of cap or helmet terminating in an eagle's head, on the obverse—a device, following early Persian traditions, originally introduced by Sapor I.

The reverse adds nothing positive towards the interpretation of the legends, of which we already have better defined examples; except that it seems to show chaotic traces of Greek letters, which may prove to have some connexion with the Bactrian Azas group—while retaining the hybrid *Malka* found on the other coins.

M. Tiesenhausen, who was so good as to bring this specimen to my notice and to superintend the execution of the

¹ Numismatic Chronicle, vol. xv. o.s. plate p. 180, fig. 3; and vol. xii. n.s. plate iii. fig. 3.

² J.R.A.S. Vol. IV. n.s. p. 1. Reprinted in the Numismatic Chronicle, vol. x. n.s. p. 139. See also a later notice of these coins in my essay on the "Epoch of the Guptas," p. 38, note *.

woodcut, enters into some further details, which I quote in his own words :

“St.-Pétersbourg, Pont de la Police, 17.

“Le 11/23 avril, 1881.

“Pour ma part je crois vous faire plaisir par l’envoi des empreintes d’une monnaie en argent que je viens de découvrir dans les riches collections de l’Ermitage Impérial à St.-Pétersbourg et qui sans doute appartient à la même catégorie dont vous avez parlé dans votre mémoire sur les monnaies indo-parthes.


“Un exemplaire de cette monnaie (en plomb) qui se trouvait au cabinet d’un amateur à St.-Pétersbourg et qui m’est échappé jusqu’à présent, a été publié et décrit par feu M. Koehler. Voy. ses *Gesammelte Schriften*, publ. par l’Académie des Sciences de St.-Pétersbourg, vol. i. p. 11, pl. ii. No. 1. Il en parle de la manière suivante :

“‘Buste d’un roi à grande barbe et longue chevelure, tournée à droite; la tiare surmontée d’une tête d’aigle.

“‘*Rev.*—*ΣΓΕΥΕ VAZ VNIOT*. Figure du roi à cheval, allant de gauche à droite.

“‘La légende est très-difficile à déchiffrer parceque les lettres sont mal formées. On y découvre cependant quelques lettres, *VAZV*, qui renferment peut-être une partie du nom royal que l’on pourrait rapporter au nom d’Artabazus, de Monobazus, ou d’Artabanus,’ etc.

“Ainsi Koehler croyait que l’inscription était composée de lettres grecques. L’exemplaire de l’Ermitage, dont je vous envoie les empreintes, nous montre clairement que les lettres de l’inscription sont identiques avec celles qu’on lit sur les pièces décrites dans vos ‘Indo-parthian coins.’

“Outre cela je me permets de fixer votre attention sur l’identité des ornements marginal  sur toutes ces monnaies. On retrouve ces ornements aussi sur les pièces du prétendu Heraeus.”

LATER SASSANIAN AND INDO-SASSANIAN COINS.

Whatever the Arabs destroyed or burnt in the way of fragmentary MSS. or more consolidated books, in the days of their fanatical ignorance, they very soon came to appreciate the value of the documentary evidence of the rent-rolls of the countries they conquered. And, so, what was of even more importance to invading armies, every previous record of distances, difficulties of transit, commercial halting-places, military highways and byways, was studied and reduced to order in all its details. To these obligations on their part we are chiefly indebted for the ground-work of all Arabian geography.

But whatever the motives which led them to preserve and translate these records of the past, the result proves to be singularly valuable to modern inquirers, and especially so in this instance, for the chance references they contain as to the political condition of neighbouring states bordering on their main lines of aggressive combat. It would seem, on the other hand, that our coins may, in their devices and legends, more clearly define and localize the details furnished by the Arabic MSS. as they have come down to us.

As preliminary, therefore, to any examination of the extant coins, I reproduce from comparatively independent sources—authorities who wrote or borrowed from others more than a century and a half apart—two lists of the designations and titles of a large range of local rulers, some of which may aid us in the ultimate emplacement and determination of the dates of those Kings whose once current money now appeals to us for interpretation.

I have not thought it worth while to alter, or to attempt to bring under one system of transliteration, in the subjoined table, the continental conflict of German and French schemes of transcription; the matter is indeed somewhat immaterial apart from the pedantic issue.

LIST OF LOCAL KINGS, WITH THEIR TITULAR DESIGNATIONS

STATES.	ALBÍRÚNÍ, ¹ <i>circa 1030 A.D.</i>	IRN KHORDÁBRAH, ² <i>circa 869 A.D.</i>
The Turks, etc. . .	Khákán	
The Ghuzz Turks . .	Hanúta	
The Chinese. . . .	Baghbúr	
India	Balhará	
Kannuj	Rábí (Rái)	
The Islands of the Eastern Ocean . .	Maharáj	
Tabaristán	Ispahbadh	
Dunbáwand	Masmaghán	
Gharjistán	Shár	
Sarakhs	Zádhawaihi	Zadaveih
Nasá and Abiward .	Bámana	(Andkho) Bahmana
Shásh	Tudun	(Niça) Ibanan
Marw	Máhawaihi	Mahaveih
Marw ul rúd . . . .	. . . . .	Kelán
Níshhápúr	Kanbár	Kenar
Samarkand	Tarkhún	Tarkhoun
Jurján	Anáhpadh	
Bámiyán	Shír-i-Bámiyán . .	Saïd-Bamián
Kábul	Kábul-Sháh	Kábul Sháh
Tirmidh	Tirmidh-Sháh . . .	Termed Sháh
Khwárizm	Khwárizm-Sháh . .	Khárezm Sháh
Shirwán	Shirwán-Sháh . . .	
Bukhará	Bukhará-Khudáh . .	Khodah
Gúzgánán	Gúzgán-Khudáh . .	Gourganán
Amol . . . . .	. . . . .	Anseb-Amol-Sháh
Transoxania . . . .	. . . . .	Kousán Sháh
Rokkhedj, Daver and Nimroz . . . .	. . . . .	Dou'l-na'-naah
Seistán . . . . .	. . . . .	Rotbib
Vardanah . . . . .	. . . . .	Vardán Sháh
Herát, Poucheng and Badghís . . . .	. . . . .	Arán

¹ Sachau's Translation, London (Orient. Tr. Fund), Allen & Co., 1879, p. 109.² Text and Translation, by M. Barbier de Meynard, *Journal Asiatique*, 1865, pp. 249, etc.

Yakúbi, who was a contemporary of Ibn Khordádbah, frequently alludes to the celebrated *Rutbíl* رُتْبِيل, "King of Sejestan,"¹ as also do both Tabari and Masaudi; he is sometimes designated as "King of Kábul,"² and at others as "King of Sind,"³ which would seem to imply either that his dominions covered a large extent of country, or that the site of his capital was frequently changed. This latter course we know to have been in frequent operation with the mutable metropolis of Arachosia; and considering the Arab advances in so many directions upon a coveted centre, the local Suzerain must have had an unquiet and disturbed time of it.

The most interesting notice bearing upon the previous period of these lands, however, is contributed by Ibn Khallikan, who tells us, "There was in the territory of Sijistán a Turkish tribe called *Darári*, and governed by a king named Retbíl. . . . Yakub (bin Leis) slew their king and three princes, all bearing the title of Retbíl."⁴

We need have little difficulty in identifying the *Daráris* with the *Duránis* (دُرَانِي), the populous tribe settled in and around Kandahár, and subsequently so famed in the history of the Afghán nation.⁵

Yakúbi's text furnishes many contemporary references to sites and cities, as well as to names of kings in temporary possession, which it may be worth while for future inquirers to follow up.

Before asking our modern palæographers to accept my readings of the legends on the coins reproduced in the Autotype Plate, I am anxious that they should be put in possession of the means of checking and improving upon my interpretations. I have therefore reprinted, in the subjoined

¹ كتاب البلدان. Lugd. Bat. 1858, pp. 58, 61 *et seq.*

² Masaudi, iv. 130.

³ Tabari, iii. 518; iv. 123.

⁴ Ibn Khallikan, Oriental Translation Fund, vol. iv. p. 302. D'Herbelot, under *Jacob Leith*, p. 466, speaks of "Darham" prince of Sejestán; Masaudi, however (vol. viii. pp. 41, 415), refers to "Dirhem bin Nasr." Yakut has دُرَيْم.—Istakhri, Goeje, p. 246.

⁵ Elphinstone (Kabul, p. 391) estimated the area of the Duráni possessions as 400 miles by from 120 to 140, *i.e.* "larger than England," with a population of 60,000 families, at the period of Nadir Sháh's invasion.

table, my early conclusions as to the inefficacy of the thirteen or fourteen graphic forms of the Sassanian alphabet, to do anything more than indicate in a rude way the sounds and inflections of their own tongue. As long as the charming simplicity of the old Persian remained in force, and men could talk to one another with few words, in very primitive terms, when signs and motions to some extent still introduced speech itself, a very short-hand form of writing was sufficient to give effect to all that either party had to say or record. Hence the early Pehlvi script was sufficiently embodied for the moment in a secondary form of Phœnician writing, with whose ethnic elements it had nothing in common. But when this alphabet was called upon to become the step-mother of the more copious Arabic vocabulary, its technic deficiencies were very soon discovered. And the earliest adaptations of the hybrid Kufic had to borrow new letters from Syriac sources, while the later Arabian grammarians of the Baghdad school perhaps over-elaborated their alphabetical lists to meet provincial or tribal utterances.

I. COMMUTABLE SOUNDS OF THE NORMAL LETTERS ON THE COINS,
INCLUDING LATER PERSIAN AND ARABIC DEVELOPMENTS.

1	ا د ا د ح or ع a, h, h, or ain.	8	و ک k.
2	ب b, at times w.	9	م m.
3	ت د ت or ط t, th, d, z, or t.	10	{ ن n (old form 2 = w or r) or, w.
4	ر (old form 2 = r) or ل l.	11	د گ د ي or ج i, d, g, or j.
5	ز z.	12	ـ ʔ final, or attached izāfat.
6	س s.	13	چ ز ژ چ or ص ch, j, z, z or s.
7	ش sh.	14	پ or ف p or f.

The final ن may be looked upon as a later advance on the Persian Cuneiform 𐎠 or sign of separation; in other cases it

seems to follow the Sanskrit mission of a stop or *Virāma*, a method of silencing the inherent Aryan short vowel *a* in the leading consonant. In the Pehlvi examples, its duties are not very clearly defined; but I have adopted in my transliterations the subsequent Arabic form of *c* *Sukūn*, which equally points to a silent consonant.

II. CONVENTIONAL MODERN PERSIAN, WITH THE CORRESPONDING PERSIAN AND ENGLISH EQUIVALENTS.

1	ا	A.	12	ک	K.
2	ب	B.	13	گ	G.
3	ت, ط	T, T.	14	ل	L.
4	ج	J.	15	م	M.
5	خ	KH = hu.	16	ن	N.
6	د or ذ	D.	17	و	W.
7	ر	R.	18	ه	H.
8	ز	Z.	19	ی	I or Y.
9	س or ص	S.	20	ی	I final.
10	ش	SH.	21	چ	CH.
11	غ	GH.	22	پ	P.

No. 4. Silver. Plate No. 1. Unique. Mr. Alexander Grant.

Obverse.—Sassanian head surmounted by a Buffalo crest.

Left.— ... نیه ... دد ... ?

Right.— ... سیم ... دد ... *seham*.

Reverse.—Fire-altar, etc.

Left.— ... , retrograde?

Right.—سیوستان *Sivastan*? The Pehlvi entry may also be read as *سي وسط* or 23, but the date is not usually inserted in this corner of the coin, whereas the space is specially reserved for the Mint.

We gather from the Muster-roll of Xerxes' army, as preserved by Herodotus (vii. 61), how important a part the quaint head-dresses of the period played in determining nationalities. If the Asiatic Ethiopians already recognized a symbolic type, in the guise of horses' scalps,¹ the coincident or deferred use of a buffalo's mask seems to point to contiguous regions. And this brings us naturally to the banks of the Indus, where the buffalo itself was a permanent institution—and, indeed, a measure of wealth between man and man. So that, even up to modern times, we find Major McMurdo (in 1834)² describing this semi-amphibious 'giver of milk' as the leading test, in the sense of property ownership of the country. If, in addition to this, we might venture upon any association of the remarkable type of the king's bust on the unique coin (xvii. 6, A. A.), and the possible interpretation of the Hindi legend as श्री टटे षहि *Tri Tate(ch) Shahi*,³ with the celebrated Brahman *Chach* and his revolution in Sind, there would be another link added to existing coincidences.

We have, in our Indo-Sassanian series, several groups or sub-sections of these Buffalo coins.

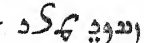
The one family undoubtedly used some form of the Pehlvi alphabet, which may in certain cases be transcribed as *𐭠𐭣𐭠𐭣𐭠𐭣* *Pakachmak* or *𐭠𐭣𐭠𐭣𐭠𐭣𐭠𐭣* *Pakachmāk*, a name which suggests the coincident Parthian *Pacores*.⁴ On the other

¹ "And with the ears and the mane; and the mane served instead of a crest."—Cary, Bohn's ed. p. 430. The Vishnu Purāṇa has a somewhat similar reference to horse-headed creatures, i. 32. The *Gurkhar*, or wild-ass, is common in Sind, Elphinstone p. 7; Burnes, iii. 321; and E. Conolly, J.A.S. Bengal, 1840, p. 723.


² J.R.A.S., I. o.s. 1834, p. 231. See also Wood's *Oxus*, Yule's edit. p. 35.





³ J.R.A.S., XII. o.s. p. 841.

⁴ Prinsep's *Essays*, vol. i. pl. xxxiii. fig. 3, p. 410; vol. ii. p. 115. See also *Ariana Antiqua*, pl. xvii. figs. 6, 7.

hand, many specimens read preferably  *Wasaki Mazd.*

Another minor division of the Buffalo-head type, but more Cow-like in outline, is represented by the coin engraved as No. 21, pl. xxi. *Ariana Antiqua*; the legend, however, seems to be identical with the previous examples.

I am not quite certain whether the letters in front of the face are designed to convey a *name* or a mere invocation. M. Lenormant, in his *Magic*, mentions the frequent use in the latter sense of the term "*Schem*."¹ The import of the monogram which precedes the word  *afzud*, 'increase,' to the left of the head of the king, still remains an enigma, in spite of the numerous new examples furnished by M. Bartholomæ's collection.² The conventional treatment of the monogram varies so much in different specimens that it is difficult to fix a normal form which may not have to be corrected by later examples.

The first appearance of this symbol occurs on the coins of Hormuzdas IV. in the sixth year of his reign (Dorn, pl. xxvi. fig. 11), where it presents the appearance of  *Salam*, or  *Salamach*; in his 6th and 7th years it progresses into  or *Salman* or *Alman*, with definite tracings of two *nn*'s at the end. In the 3rd year of Khusru II. (Dorn, pl. xxviii. figs. 4, 5), the monogram seems to become  *Amach* or *Samach*, which is hereafter the more constant type.

I, at one time, imagined that the word might be held to

¹ "Tout le monde sait quel développement la croyance au nom tout-puissant et caché de Dieu a pris chez les Juifs talmudistes et kabbalistes, combien elle est encore générale chez les Arabes. Nous voyons aujourd'hui d'une manière positive qu'elle venait de la Chaldée. Au reste, pareille notion devait prendre naissance dans une contrée où l'on concevait le nom divin, le *schem*, comme doué de propriétés si spéciales et si individuelles qu'on arrivait à en faire une hypostase distincte. C'est le cas de retourner le mot célèbre de Varron, en disant *nomen nomen*."—*Le Magie chez les Chaldéens*, Paris, 1874, p. 41. Curiously enough, Sir A. Burnes discovered that the idols at Bamiân were called "*Sâmach*" by the residents of the place.—*J.A.S.B.* vol. iii. p. 561.

² Collection of Monnaies Sassanides, de M. J. de Bartholomæi, par Dr. B. Dorn, St.-Petersbourg, 1875.

imply a synonym of the Indian *om*, but the final *ch* is certainly against this interpretation,¹ though the curve given to the final downstroke, which converts the early *l=n* into *ch*, may after all be a die-cutter's flourish, which meant nothing to the initiated.

No. 5. Copper. Plate No. 2. Unique. Col. E. Walcott, Bombay Army.

Obverse.—Indo-Sassanian type of the bust of the king, with a small griffin at the back of the crown.

Legends to the left *افزود من گرام* Monogram ?

„ to the right *م و ر ا ن ا = ط ک و ن ا* or *ط ک و س = ط ر خ ا ن*
Turkhán ?

هو ط ی ف س ر م د د ر *Khediv*.

م و ر ا س ا ن م ل ک ا س ر ل د س ر ه ل و د *Khorásán Malka*,

“King of Khorásán.”

Reverse.—Fire altar, etc.

Legends, left,

ط ر ی ن = م د د ر

„ right, *ز ا و ل س ط ا ن س ر ل د س ر* *Zábulistán*.

The Emperor Bábar, in his *Memoirs*,² has a geographical note on the limits of Zabulistán, to the following effect: “There is also the country of Ghazni, which is often denominated a *Tumán*. It is also named Zábul, and it is to this country that the term Zábulistán relates; many include Kandahár in Zábulistán.”

We need not suppose that the title of *Khedive*, which appears on this coin, is altogether a modern invention, though its application did not always bear the same significance in the contrasted kingly status. We have, from the earliest Persian traditions, *Dáts* and *Pesh-dáts*, and further on as we reach the time when written records or reproductions chance

¹ J.R.A.S. Vol. V. n.s. 1871, p. 439.

² Erskine's Translation, London, 1826, p. 148.

to survive, we recognize a very old form of the title on the Bokhárá coins, in $\text{خود دات} = \text{स्व दत्त}$ *swa datta* 'self-given, self-created,' in Zend 𐬔𐬀𐬌𐬌𐬀 *ga-dáta*.¹ Hence, *Khudá* 'God' and king, in its Pehlvi form of 𐬭𐬀𐬎𐬭𐬀 *Hutái* 'king.'² We may be quite prepared, therefore, to accept the identity of the modern Persian خدیو *Khdiv* with the Pehlvi 𐬭𐬀𐬎𐬭𐬀 *Hutef* of the later Sassanian period. The title is common in the Sháh Námah, and, in its Indian application, we find Badaoní mentioning the Sultán Bahlol Lodi (A.D. 1451) with the prefix of خدیو ملک جهان کشا .³

No. 6. Silver. Unique. Plate No. 3. Mr. A. Grant.

Obverse.—The usual Arabico-Sassanian style of bust.

Legends. Left. Monogram

۱۔ عفو، افور = مدد؟

Margin

In the name of
the just judge,⁴
Khadir, Bahmán,
King of Multán.

Reverse.—The usual Fire-altar and supporters.

Left. *unf. limb* 8th?

Right. $\text{زاوول} = \text{Zábul.}$

Margin. عفو ران سدر ادم Afuráán.

The name on this coin may be read, as usual in Pehlvi writings, in various ways. It might even be made into

¹ Numismatic Chronicle, vol. i. n.s. 1881, p. 122. Report of Third Congress of Orientalists (St.-Petersbourg), 1876, M. Pierre Lerch, p. 423. Indian Antiquary, 1879, p. 269.

² See coin No. 59, p. 318, J.R.A.S. Vol. XII. o.s. 1840. The *Antai* may now be corrected into *Hutai*. The original coin was struck at Herát, in A.H. 67?

³ Calcutta Text, vol. i. p. 313.

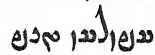
⁴ Zend Avesta, Anquetil, i. (2) 78, 'Pavan' *Shame Dutar Ankuma.*

سوفرا *Safura*; and, from the plural form used in the margin, it would seem to have been a tribal or hereditary designation, such as might be associated with the سوفرا, the Vizír of Kai Kóbád in the Sháh Námah, or the later identical name of *Sufrai*, who, with his son Zír Mihir, played so loyal a part in the fortunes of Kóbád (490-530 A.D.) during their refuge in the lands of the Ephthalites, and framed his early policy after he succeeded to the throne of Persia. Moreover, Tabari tells us that Suferai, a descendant of Minusheher, was governor of the province of Seistán under Feroz (459-486 A.D.).¹ But the preferential reading of the initial letter in its present form is indubitably *A*, *H*, or the optional *Ain*, as opposed to the very similarly formed *S*.

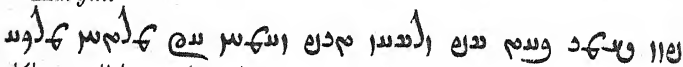
No. 7. Silver. Plate No. 4. Masson Collection.²


Obverse.—Device as in Plate.


Legends. Left.  Monogram.


Right.  *Srī Varsu deva*.

Margin.


يون شمي داتا سف ورساو طيف وهمان اچ ملاطان ملکا
Reverse.—Device as in Plate.

Legends. Left.  *Punchai* (capital of) *Zaulistán*.

Right.  *Srī Vāsu Deva*.

Margin.  سفر پرمانشان *Srī Varsu Deva* ?

Sir H. Rawlinson notices the “successive capitals of Arachosia, Penjwái and Tanganábád,”³ and identifies the ruins

¹ Vol. ii. p. 138.

² Jour. Asiat. Soc. Bengal, vol. iii. pl. xxx. 6. Prinsep's Essays, vol. i. pl. vii. 6. *Ariana Antiqua*, pl. xvii. 9.

³ J.R.A.S. Vol. XI. o.s. (1849), p. 126. Albírúni, Sprenger's Map, enters *قصبه الرخذ* *as Panjowahi*, the alternative capital is not noticed; Reinaud, from the same sources, give *قصبه القندهار* *as* *وېښد*, p. 114, Fragments; see also *Mémoire*, pp. 156, 196, and *Journal Asiatique*, vol. x. p. 94. Masaudi, vol. viii. p. 127. Elliot's *Historians*, vol. i. pp. 48, 63, 467.

of the former at a site "about 18 miles S.W. of the modern town of Kandahár."

It must be freely admitted that the theory of determining localities by the titles of their kings will not hold good in this instance. The designation of *Bahmana*, as applied by the Arabian authors above quoted, severally to the rulers of "Nasá and Abiwurd," on the head-waters of the Atrek, or to the sovereign of Andkho, to the westward of Balkh, will certainly not accord with the site of Panjwái. The title of "Bahmana," however, which we read on the coin, may well have had some connexion with the local designation of the Brahman kings of Kabul.¹

I was at one time doubtful whether the name of *Multán* in the Pehlvi version might not be preferably transcribed as مردان *Mardán* "men," so as to read in the marginal legend as "King of men,"² but the proximity of Multán, and the probability that the lords of Arachosia held sway over the temple of the Sun and the magnificent income of the House of Gold,³ seems to give importance to my first interpretation.

The prototype of the reverse devices of Nos. 7 and 8 dates, numismatically, from the 34th year of Khusru II. *Parvis*, when he temporarily or locally changed his obverse device from the authorized profile of the Sassanian *reigning* monarch to a full-front face, a style of portraiture which, seems more or less to have had advocates among the Turánian kings. We need not follow on, in these pages, all the incidental references: but it must be noticed, as bearing upon the later copies, that the earliest outline of the female, with flaming hair, represents a very young woman.⁴ Whereas No. 7 of

¹ J.R.A.S. Vol. IX. o.s. 1848, p. 177. Prinsep's Essays, vol. i. p. 313. Sir E. C. Bayley, Num. Chron. 1882, p. 128.

² J.R.A.S. Vol. XII. n.s. p. 343.

³ Masaudi, vol. i. p. 151. بيت الذهب. The author, writing in 332 A.H., tells us of how "Brahman le grand" deposited in the *maison d'or* (à Moulán), the astronomical and other calculations of the past, and the records of the primitive history of the land. See also Elliot's *Historians*, vol. i. pp. 14, 21, etc.

⁴ Longperier, Paris, 1840 pl. xi. fig. 3, p. 78: "les cheveux séparés des deux côtés de la tête et flamboyant sur le sommet." The original coin is engraved also in Sir W. Onseley's work as No. 8, and has been reproduced in Canon Rawlinson's *Monarchy*, vol. vii. 1876, p. 531.

our list, as has been remarked before, does not look at all juvenile or feminine, but rather maturely masculine. On the other hand, as will be seen in the autotype of No. 8, the woman is still young, and retains much of the air of the first Sassanian design.

As regards the flames, it would not be wise to theorize over-much on the rites and ceremonies of avowed Fire-Worshippers, who recognized and put in evidence flames on men's shoulders, etc.; but a very legitimate inquiry presents itself, as to how the Scythic representations of Šiva came to have the *Kapardin* locks of the god arranged in a somewhat similar fashion, of upward concentration into a pointed flame.¹

No. 8. Silver. Plate No. 5. Masson Collection.

Obverse.—Scythic bust, half-profile. Crown ornamented with trisul-like emblems, or modified tridents of Šiva; surmounted by the crest of a tiger's head.

In the field, a Scythic legend?

Margin, in Hindi letters.

श्री हितिवि चे ऐरण चे पगमेश्वर

Śrī Hitivi che airaṇ che Paramēṣwara

श्री शाहि तिणत देव नारिः

*Śrī Shahi tinata Deva Nāriḥ.*²

Reverse.—Female? head to the front, with the hair arranged as if designed to represent flames. Sassanian fillets at the sides.

Legends. Left.

دند ناندن دند ناندن

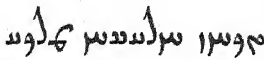
سف طنسف طیف

Sif Tansuf³ Tef.

¹ See *Ariana Antiqua*, pl. xiv. fig. 17, and pl. x. figs. 13, 16; and recent discoveries in Afghanistan, in *Proceedings Asiatic Soc. Bengal*, 1879, plate iii. figs. 1 to 9.

² Gen. Cunningham prefers "*Shahi tigin*," *Arch. Reports*, vol. v. p. 121. He objects also as to the *ण* *N* in *Nāriḥ*, but if the other *ण* *n*'s retain their proper forms, the old *न* follows of necessity, in the ordinary alphabetical order, and need not be forced into a *ज* *j*, or any other dubious consonant. On the other part, his suggestion of *Hitivi* for India has much ground of probability.

³ The Persian *تنسوخ* "precious," hence Arabic *تنسوقات*, "forma arabica persicæ vocis eadem significatione," Vüllers *s.v.*

Right. 
 طخهون هوراسان ملكا
Takhhūn, Khōrāsān Malka.

The combination of the legends on these coins—in three different languages and divergent alphabets—has constituted a difficulty with us all from the period of their first publication.¹ If we might assume that the conventional title of شیر *Shir*,² or the “Tiger” of Bāmīān, of the Arabian lists, and whose palpable image crowns the regal tiara, would suffice to fix the locality, our task of distributing the Mint sites of these issues would be greatly simplified.

The triple legends certainly seem *prima facie* to refer to a border land, or some recognized commercial trade centre, where various languages met and interchanged methods of writing. Such a position, under such conditions, would admirably fit-in with the site of Bamian,³ both geographically and in view of the numerous important passes impinging upon its focus.⁴

There is this other merit in a recognition of a town on these restricted lines of intercourse, between the north and the south of the Hindú Khúsh, that the combined legends

¹ Prinsep, J.A.S.B. vol. iii. 1834, p. 439, pl. xxi. figs. 10, 11, and vol. vii. 1838, p. 419, and plate xxii. *Ariana Antiqua*, p. 401. pl. xxi. fig. 22. Prinsep's Essays, vol. i. p. 402, vol. ii. p. 110. J.R.A.S. Vol. XII. o.s. p. 343.

² There is an uncertainty among the later *Arabian* authors as to the short vowels and the coincident meaning of this *Persian* word. This question is completely set at rest by Yāqūbi, who tells us in the full terms—

ثم مدينة الباميان وهي مدينة على جبل وكان بها رجل دهقان
 يسمى أسداً وهو بالفارسية الشير

And again—

على الباميان وسماة باسم جدّ شیر باميان وهي من مدن
 طخارستان الاولى. —Text, p. ١٨.

³ Lat. 24° 11', Long. 67° 44'.

⁴ The modern Gazetteers (Thornton's collection, Allen, 1844) describe Bamian as “a celebrated valley on the route from Kábul to Turkestan, it is generally regarded as the boundary of the Hindú Khúsh. . . . It is of very great importance, being ‘the *only* known pass,’ across these ranges, ‘practicable for artillery or heavy carriages. It is also the great commercial route.’ . . . On the southern or Afghán side, are four principal passes, . . . on the northern, or Kundáz side, three . . . somewhat complicated, but ‘that all are at Bamian restricted to one line, which holds its course through the valley.’ ”

prove to be eminently appropriate to the locality, where Pehlvi was still current in the ordinary course, and where the Southern Hindi intruded its not very well understood forms, supplemented in the third place by title of the dominant authority in a quasi-Scythic form of writing, which we may now almost venture to define as the script of the Tokhári.¹ While our sovereign's claim to be "King of Khorásán" may perhaps be accepted as, in a degree, something more than an empty boast.

Hionen-Thsang (648 A.D.), in describing Bámián, mentions that "Les caractères de l'écriture, les règlements administratifs et les monnaies qu'on emploie dans le commerce, sont les mêmes que dans le royaume de *Tou-ho-lo* (Toukharà); la langue parlée est un peu différent; mais, sous le rapport des traits du visage, les deux peuples ont une grande ressemblance" (vol. ii. p. 36).

The approximate distribution of the geographical data, associated with the bearings of the typical devices of the coins, permits us to examine, with more freedom than of old, the difficult Hindi legend which encircles in the margin the typical head of the king on the obverse.

Of course the tendency of the legend itself is obscure, not alone in the imperfect forms of the letters themselves, but in their intended application. My latest impression, on a mere mechanical redistribution of identities of the forms of the letters themselves, led me to infer that the designations of *Parameśvara* and the concluding *Deva Nāri* very closely approached the essentials of Śiva worship.²



¹ At p. 455, vol. i., "Documents Géographiques," the speech and writing of the Tokhári is described as, "Leur langue parlée diffère peu de celle des autres royaumes; les caractères primitifs de leur écriture se composent de vingt-cinq signes qui se multiplient en se combinant ensemble et servent à exprimer toutes choses. Ils écrivent horizontalement de gauche à droite."

² परमेश्वर *Parameśvara*, "The supreme being," though not exclusively the title of Śiva, is perhaps preferentially so. Durgá is likewise known as *Parameśvarī*. At Benares, Śiva as *Vijayeshvara* is "The Lord of all" (Wilson's Essays, vol. i. p. 188). But the देव *deva* नारी *nāri*, "the female divinity," brings us much nearer to *Saivism*, in the *Arddha-nāriśvara* "Śiva half-feminine," so many exemplifications of which detestable association appear on the Indo-Scythian coinage (J.R.A.S. Vol. IX. n.s. pl. ii. figs. 13, 25, 26, p. 214). That the Sassanians themselves were not always averse to adopting Hindú gods, may be seen by the appearance of the identical reverse of 'Śiva and his Bull' on the coins of Hormuzdas II. (Num. Chron. vol. xv. o.s. plate, p. 180, fig. 11; and vol. xii. 1872, p. 115.)

The *Sháhi* or “King,” without its concluding qualification, in like manner, might easily fall in with the nomenclature of a supreme power where *God or King* were still in a degree synonymous. But, undoubtedly, the tendency of the conjoint legends with which we have to deal, might be accounted for by a grandiloquent amount of assumption on the part of a monarch who proclaimed, in *Pehlvi*, that he was King of Khorásán, and whose claims, in *Hindi*, represented either *India* proper, or the larger range of *Prithivi* “the world,” as well as the more clearly-defined *Irán*, which sentimentally coincided with the ancient province of Khorásán, in its more limited sense, when the possession of even a section of its boundaries entitled rulers on its borders to assume the coveted title of the kings of olden time.

No. 9. Silver. Very rare. Plate No. 6. Mr. A. Grant.¹

Obverse.—The usual Arabico-Sassanian bust.

Legends. Left.  Monogram? 

Right. **عبدولہ کٹارا من دلالہ ومولہ** *Abdullah Katara.*

Amir of the
reish. امیر یو ریشکان شهدا در اردو و سر

Margin, Kufic لا حكم الا لله. *Contremark. Scythic, unread.*

Reverse.—Left. A.H. 75. پنج حفاظ ۷۵

Right. بیسہ ادوسہ *Baisa or Fesa?*

I have not yet quite succeeded in convincing certain of my continental critics, that the *true* reading of the Pehlvi title on this and the earlier coins of the same type simply represents a *tribal*, as distinguished from any secondary adaptations by the Muhammadans, of the current form of أمير المؤمنين.² The occasion of the origination of the latter title arose, in Omar's time, out of a perview of the inconvenience of unlimited repetition, as time went on, of Khalif upon Khalif,

¹ Tiesenhausen, No. 234; Mordtmann, Zeitschrift D.M.G. 1879, p. 109.

² Prinsep's Essays, i. p. 64, London, 1858.

when it was suggested to him that, "thou art our commander, and we are believers" (مومنون). I have already referred to this question in several articles in our Journal.¹

I have now only to repeat the *a priori* probabilities of the use of the tribal title. Hamza Isfahani² has a chapter headed, in the Latin translation, "De ordine chronologico Coreischitarum regum gentis Arabicae Mohammedanae," in the first entries of which we find the names of Abu Bekr, Omar, etc.

But perhaps the most conclusive proof of the sentiment in this direction, ruling the early days of the Faith, is to be found in the stray passage in Masaudi, of which the following is the independent French translation :

"On raconte que ce khalife (Abu Bekr) fit venir un jour Abou Sofîân Sakhr, fils de Harb . . . et l'apostropha avec véhémence, tandis qu'Abou Sofîân se confondait en marques de respect et d'humilité. Sur ces entrefaites, arrive Abou Kohafah ; surpris des cris poussés par son fils, il demande à un officier à qui s'adressaient ces bruyantes apostrophes. Apprenant que c'était à Abou Sofîân, il s'approche d'Abou Bekr et lui dit : 'Atik Allah, oses-tu bien élever la voix contre Abou Sofîân, contre un homme qui, hier encore, avant la naissance de l'islam, était le chef des Koreichites.'"³

In like manner we learn from Ockley, that so late as A.H. 65, in the street conflicts between Amrú and Abdalmalik at Damascus, the women cried out to the combatants: "How long will you fight for the government of the Koreish and destroy one another?" (p. 463). The expostulators in this case do not seem to have had in their minds either the faith of *Islâm* or the rôle of "Commander of the Faithful."

KATARI'S CAREER.

"Abú Naâma *Katari* ibn al Fujââ" maintained a prominent position in the internecine wars of the discordant sections of the early Muhammadan world for many years.

¹ Vol. XIII. 1852, p. 411, etc. Vol. V. n.s. 1871, p. 432. Ockley, p. 141. Masaudi, vol. iv. p. 192.

² Text and Translation, in *Latin*, I.M.E. Gottwaldt, St.-Petersbourg, 1846.

³ Masaudi, chap. lxxv. French Translation, vol. iv. p. 179.

He is first noticed, in history, when Muṣāb bin Zobeir became Governor of Irāk in A.H. 68. After varying successes and reverses, the Khawārijite Azāriķites were dispersed on their final failure to capture Isfāhān. The scattered survivors then elected Kaṭari, a man strong in the front of the battle, as their chief. Retiring temporarily into the fastnesses of Kirmān, to recruit their ranks, they became reorganized enough to resist in the field the assaults of the celebrated strategist *Muhallib* ibn Safrāh for a period of no less than eighteen months. About this time, so unsettled was the succession to the *Khilāfat* of the new religion, that we hear of the banners of no less than four Imāms as being contemporaneously displayed at Mecca, each claiming to represent *Islām*, and each conducting, by self or deputy, the public prayers, at the sacred shrine for the benefit of those pilgrims who recognized their conflicting titles.¹

In A.H. 69 a fifth claimant to the ecclesiastical throne of Merwān appeared in the person of 'Amr bin S'aīd, who, however, was soon disposed of by the unusually base treachery of 'Abd al Malik. No wonder, then, that "the Separatists," as Ockley calls them,² assumed to elect an *Amir*, or commander, of their own, who should represent their views of the imperfection of 'Ali's rights, and saluted him accordingly "by the title of *Khalīf*."³ And this historical record explains the grounds of his assumption of the designation of "Amir of the Koreish," which we find on his coins. Subsequently dissensions arose in the Khawārijite camp, and Kaṭari was set aside for another commander. He then retreated, with the small body who still adhered to his standard, into Tabaristān, where he was eventually hunted down and killed.⁴

¹ "Il y eut [en cette année] à la Mecque, au temps du pèlerinage, quatre drapeaux différents, appartenant à quatre Imāms, dont chacun était opposé à l'autre; . . . On pouvait craindre qu'il n'y eût des luttes entre ces différents partis, dont chacun se rendait à 'Arafāt avec son drapeau, et accomplissait la prière séparément. Les pèlerins des différentes contrées, qui prenaient part au pèlerinage, étaient étonnés à ce spectacle et se demandaient quel était le véritable Imām."—Tabari, French Edition, vol. iv. p. 102.

² Bohn's edit. p. 292 *et seq.*

³ Ibn Khallikan, vol. ii. p. 522.

⁴ Tabari, vol. iv. p. 121. Masaudi, vol. v. pp. 230, 314, 350, etc. Price, Muhammadan History, p. 453.

ART. III.—*On the Early Historical Relations between Phrygia and Cappadocia.* By W. M. RAMSAY, Esq.

I.—THE ROYAL ROAD.

THE following account of the early relations between the countries east and west of the Halys is the result of a journey made from Smyrna by the Hermus valley, Doghanlu, Angora, Boghaz Keui, and Euyuk to Sivas (May 13 to June 29, 1881), on which Col. Sir Charles Wilson kindly invited me to accompany him.¹ The Roman roads of the district were a frequent topic of conversation; and the knowledge of the routes, on which this article rests, has been gained from his skill. I afterwards found that the information I had thus acquired from him of the Roman road-system had an important bearing on the early history of these countries.

There is a great obstacle to communication between the Aegean coast and the immense plateau, 3500 feet high, which forms the greater part of Asia Minor. From the central plateau ranges of mountains, separated by deep valleys, run out to the west; rivers spring from the edge of the plateau, and flow to the Aegean through gorges which gradually open out to level fertile valleys; but mountains, rarely practicable except on foot, often not even on foot, separate the valleys from the plateau. One easy path, and one alone, has been marked out by nature. It leads up the Maeander to the junction of the Lycus, and then along the

¹ The paper was intended for publication in the last Number of this Journal, and was completed in all essential features last September; it was delayed in order to see whether a second journey in Phrygia might modify or add to the views here expressed. The delay has enabled me to speak of the Maeander route from personal knowledge, to add *inserr.* 4, 5, 6, 11, and 12, and to insert many corroborative details.

Lycus, through Colossae, past the salt lake and the old town of Anava¹ to Celaenae and the fountains of the Maeander. Along the whole road there is no perceptible slope, till near Celaenae it descends into the valley, through which the Maeander flows north and west. Apameia-Celaenae lies just below the great central plateau, which is divided by a perfect mountain-wall from the deep-lying valley of the Maeander. Under this mountain-wall comes the water from the lake Aulocrene on the plateau above, and gushes forth in many fountains, which, uniting in front of the city, make the Maeander at once a considerable stream. The road ascends the mountain-side obliquely, and has then the plateau stretching open in front of it for a thousand miles away. This road was used by trade from an early time. Artemidorus describes it as it existed under the Persian empire, and gives all measurements from Ephesus to Susa.²

We learn from Hipponax that Phrygian traders came to Miletus (fr. 36); they doubtless came down the Lycus route to Miletus, which was the natural sea-outlet till its harbour was filled up by the Maeander. Herodotus had gone up as far as Celaenae, but no further (Matzat, *Hermes* vi. p. 406). Xerxes descended by the same route when marching to attack Greece; Cyrus went up by it to attack Artaxerxes; the Roman commerce with Phrygia and the mighty blocks of Docimian marble (Strab. p. 577) followed this route; so did the caravans till lately;³ and, henceforth, the railway

¹ Anava (Herod. vii. 24) was situated at the modern village Sari Kavak, 'Yellow Poplar,' an hour east of Chardak, overlooking the lake whence people still get salt as they did in the time of Herodotus. Considerable traces of the city remain, including a curious old doorway of pre-Hellenic style.

² In Caria 740 st., towns Ephesus, Magnesia, Tralles, Nysa, Antiocheia, Caroura; in Phrygia, 920 st., towns Laodiceia, Apameia, Metropolis, Chelidonium, Holmoi; in Phrygia, Paroreia rather more than 500 st., towns Philomelion, Tyriaion; in Lycania, 840 st., towns Laodiceia Katakekaumene, Koropassos; thence over Cappadocia by Garsaoura (120 st.), Soandos, Sadakora to Mazaka, 800st. (Strab. p. 663). Pliny refers to this road, ii. 172, v. 106, xvi. 240; distance from Mazaka to Ephesus cccxv m. p. Xenophon gives the distances—Sardis to Apameia 50 parasangs (Sardis-Apameia = Ephesus-Apameia), Colossae to Apameia 20, Peltae 10, Keramon Agora 12, Kaustrou Pedion 30, Thymbriaion 10, Tyriaion 10, Ieonion 20, through Lycania 30, through Cappadocia to Dana 25; whence he crossed the mountains to Cilicia. The parasang is 30 short stadia of 480 feet measured by a *hematistes* (Hirschfeld, *Apameia-Celaenae*, p. 8).

³ When the Hermus valley railway was extended to Philadelpheia, trade from

will make this route the great artery of intercourse with the interior.

On the other hand, the Maeander valley proper is an almost impassable defile above the junction with the Lycus, while the upper Hermus valley, though not so difficult, offers some long and narrow gorges, which will make the proposed railway very expensive.

It seems then easy to see the path by which civilization was carried from the east to the west of Asia Minor, and yet, on examination, it becomes certain that the Lycus route was not the one used in early time. In the explanation of this seeming contradiction lies the clue to the early history of Asia Minor.

The legends of Marsyas, Midas and Lityerses show that the Greeks of the coast knew very early of the Phrygian inhabitants and of the remarkable natural features of Celaenae. But these myths form only a small proportion of the body of Phrygian legend, which is chiefly connected with Northern Phrygia. The Phrygia of legend is the Sangarius valley, the kings of Phrygia are the descendants of the Sangarius, and their legendary battles with the Amazons are fought on its banks (Iliad iii. 186).¹ Moreover, the Persian "Royal Road" from Ephesus to Susa, described by Herodotus (v. 49), crossed Mt. Tmolus to Sardis, and thence went on to the Halys over the very country where Phrygian legend has its special home. This route is very much longer than the other, besides being infinitely more difficult.² How comes it that the Persians, with the direct and easy route already known to commerce perhaps as early as the time of Xerxes' march, preferred the longer and more difficult one? The historical circumstances of the fifth and sixth centuries afford no answer to this question; it can be answered only by

the interior was diverted to this route. Now when the Ottoman line is extended to the Lycus junction, trade will resume the old path.

¹ I have no sympathy with the view that recognizes in the Phrygia of the Homeric poems merely the district beside the lake Ascania. Iliad iii. 186, and the phrase of the Hymn to Aphrodite, *Φρυγίης εὐπειχέτατο*, seem to me decisive against it.

² No one who has travelled both will accuse me of overstating the difficulty of the Hermus route or the ease of the Lycus route.

going back to an older time when different centres of power made this route the necessary one.

In the northern part of Cappadocia, about ten hours east of the Halys, at the village of Boghaz-keui, are the ruins of a great city. Its walls, which are of great circumference, and include several hills, two small streams, and a considerable portion of the plain in front of the hills, are fourteen feet thick on the hills, and were apparently still stronger on the plain. I need not here repeat the description which M. Perrot¹ has given well, though incompletely; nor need I again state his convincing proof that the city is the Pteria of Herodotus and Stephanus. The character of the city and of the immense palace or temple in it is clearly Oriental, and there can be no doubt that this was the capital, or at least one of the strongest cities of a genuinely Oriental power which ruled over a wide country. A place of such size and magnificence implies the existence of a strong political power.

The situation beyond the Halys, in the northern part of Cappadocia, must be noted. The Halys has always been a boundary river. The expressions "within" or "beyond the Halys" occur frequently; we never find "beyond the Sangarius." The Halys, then, was the boundary between the east and the west. The empire of Assyria never crossed it, and it was the limit between the Lydians and the Medes (Hdt. i. 72); when Croesus declared war against the Medes, he marched straight on Pteria, as the chief seat of his enemy. The road from the east to Sinope, in early Greek history the chief route for Oriental commerce (Curt. *Gesch.*

¹ *Voyage Archéol. en Galatie*, etc., p. 323 ff. Stein on Herod. i. 76 doubts that Boghaz-keui is Pteria. In that case one would simply have to read throughout the present article Boghaz-keui instead of Pteria; the reasoning is not dependent on the name. The ruins of Boghaz-keui show what its character was; according to Stein, Croesus must have passed by this chief seat of his enemy and attacked some place on the coast near the mouth of the Halys. But (1) it is in the highest degree improbable that a great Oriental city so situated should either have disappeared completely or escaped the notice of travellers; (2) Herodotus implies that Croesus attacked the strongest seat of the Oriental power; (3) it seems to me quite certain that Boghaz-keui was the chief seat of that power. Against these arguments it seems injudicious to press so much the force of *kard*, even admitting the interpretation of Stein, which I think misses the true character of the preposition. Stephanus has the form Pterion, Herodotus Pterie.

Gr. i. p. 405), must have passed through Pteria;¹ no doubt that colony owed its great prosperity in early times to the fact that it was the nearest point of the coast to the great Oriental centre. Hence, Herodotus defines the position of Pteria for his Greek readers by the words, ἡ δὲ Πτερὶή ἐστι τῆς χώρας ταύτης τὸ ἰσχυρότατον κατὰ Σινώπην πόντον . . . μάλιστα κη κειμένη (i. 76).

It is not yet possible to speak of the relation which existed between Pteria and the great empires of the east; we know not how far it was the head of an independent monarchy, or how often it was merely subject to Carchemish or Nineveh. It does not indeed lie within the scope of this paper to treat of the relation between Cappadocia and the East, but only of its influence on the civilization of Western Asia Minor; the former task must be left to abler hands. It will doubtless, with better knowledge of the country, become possible to trace the path of government, of commerce, and of civilization, across Cappadocia, by means of the rock-cut monuments, and of the important religious centres of the country. A little west of the Cilician gates are the rock-sculptures and inscriptions beside Eregli; at Tyana we found a stone with similar sculpture and inscription; further north, near Ghurun are two rock-inscriptions discovered by Sir C. Wilson: Comana was the greatest Cappadocian sanctuary of later days.

The "Royal Road" dates from the time when Sardis and Pteria were the two chief cities of Asia Minor, and when they were in regular communication with one another. The civilization and merchandize of the east were brought from Pteria to Phrygia and Sardis across the Halys. The road could hardly be used except for peaceful communication. An army could scarcely traverse the gorges of the Hermus, and both Xerxes² and Cyrus the Younger were obliged to take

¹ The road between Sinope and Pteria probably went, like the modern path, due south by Boiwad. It traverses a very difficult country.

² According to Herodotus, Xerxes crossed the Halys into Phrygia, but here he diverged south to Celaenae; if this account is correct, Xerxes followed the "Royal Road" for some time, but came round by Celaenae in order to avoid the Hermus route, which was impracticable for an army.

the Lycus route. Can it be believed that Darius would have chosen this way for his Royal Road unless he had found it ready made to his hand ?

Kirchhoff and Hirschfeld¹ have both recognized the necessity of explaining the peculiar path taken by the Persian Road ; the theory which they adopt is different from the one which I have given. They consider that the western part of the road was constructed to join the old trade road between Sinope and the East, but this leaves unexplained the original difficulty, viz. why the point of junction was placed so far away to the north. Nothing that I have said conflicts with their remarks, but I have added a new element to the theory.

But direct proof that such a road existed before the Persian rule can be added to the indirect argument hitherto given.² In the first place, Herodotus asserts that before 500 B.C. this road existed, and was known by Aristagoras. But if it existed before 500 B.C., it was probably made before the Persian rule. Darius had not as yet had time to consolidate his empire and form the lines of communication on such a vast scale as this road implies. The earlier years of his reign were spent in continuous wars.

Secondly, the bridge by which the road crossed the Halys existed in the reign of Croesus (Herod. i. 75) ; and a bridge implies a road in regular use.

Thirdly, the Lydian kings seem to have paid some attention to the road system of their empire, and to have perhaps even measured them ; this may be gathered from Herodotus's account of the roads in the Maeander and Lycus valleys, and the boundary pillar erected by Croesus at the fork of the roads in Kydrara (vii. 30).

Fourthly, this road explains why the old Greek mythology localizes most of its Phrygian myths in the Sangarius valley.

¹ Berl. Monatsb. 1857, p. 126 f. ; Hirschfeld, *Apameia-Celaenae*, p. 7 (extr. fr. *Berl. Abhandl.* 1875).

² It is now admitted that the eastern half of the Royal Road existed long before the Persian rule ; see Stein on Herod. v. 52, p. 52.

Fifthly, all the important centres of Phrygian commerce, except Apameia, such as Pessinus and Gordium, the chief religious centres similar to Comana, all the most remarkable Phrygian monuments with one exception,¹ and the chief remains of early Phrygia, lie along this road.

If the Royal Road was originally the road between Sardis and Pteria, the capitals of the West and East, its formation cannot be later than the accession of the Mermnad dynasty, 687 B.C., when the attention of the Lydians was diverted from the East and turned towards the Greeks. On the other hand, it is well known that the Heracleid kings did not trouble themselves about the coast-line, but looked towards the East. A consideration of the early history of Lydia makes it probable that the beginning of the power of Sardis is contemporaneous with the formation of a permanent road. It is a most important and wide-reaching fact that intercourse between Cappadocia and Lydia existed sufficient to form for itself a regular road at least as early as the ninth B.C.; this fact, if it be admitted, is the key to the whole history of the country in early time. In another place I have argued that the art and therefore the whole civilization of Northern Phrygia is derived from Pteria; and long before Greek influence began to penetrate into Phrygia we are obliged to consider that the civilization of Pteria must have been spreading westwards, and its growing ascendancy in Phrygia and Lydia demanded facility for communication with the East. We shall hardly be wrong in tracing this advance of Cappadocian influence to the expansive power of its religion. It is impossible among a primitive people for such interchange of ideas to take place except under the influence of religion. Art in its earliest stages is hieratic, and this character certainly belongs to almost every rock-sculpture in Lydia, Phrygia, or Cappadocia. It was therefore as the servant of religion that art diffused itself westwards.

¹ The tomb of Mygdon, at Stectorion near Apameia, Paus. x. 27.

One might also explain the resemblance of Cappadocian and Phrygian civilization by an actual conquest of Phrygia and Lydia. But its own proselytizing power, and not conquest, spread this religion over Thrace and Macedonia into Greece; and the presumption is that it spread in a similar way over Phrygia and Lydia.¹ It must however be left to future investigation to determine whether Western Asia Minor was ever actually conquered by the Cappadocians. This religion developed wherever it went great religious centres, where a hierarchy of priests ruled over a district peopled by Hierodouloi; at Ephesus and at Comana, the west and the east, the same character is apparent. It is now no longer a matter of doubt that the civilization of Asia Minor always tended to this character, and that secular rule was a development of later time, perhaps always more or less under Greek influence. Strabo (p. 535) has described the gradual growth of kingly power beside that of the priesthood in Comana; and we shall probably not be wrong in believing that the Phrygian kings in like manner were in close relation with the priesthood.

Let us now try to follow this road step by step, following the line between Pteria and Sardis; we shall then find that we go along a series of great cities and priestly centres, some of which sank into insignificance during the historical period, and retained only the recollection of their former greatness. It crossed the Halys by a bridge² which was strongly guarded, *πύλαι τε ἔπεισι, τὰς διεξελάσαι πᾶσα ἀνάγκη, καὶ οὕτω διεκπερᾶν τὸν ποταμόν· καὶ φυλακτήριον μέγα ἐπ' αὐτῷ*. These *phylakteria*, which Herodotus mentions also in Armenia and at the Cilician Gates, were originally, doubtless, barriers where every traveller crossing from one country to another was carefully scrutinized. It is clear

¹ I hope hereafter to trace the southern road across the peninsula by Iconium, and to show that it also grew through the spread of religion and civilization, not through foreign conquest.

² Herodotus distinguishes throughout those rivers that were crossed by boat, *νησί περητός*, and he tells us that Croesus had a bridge to cross the Halys (i. 75).

that the road and bridge existed when the Halys was a boundary river between Lydia and Cappadocia; the guard-house perhaps dates from the time when the limits between Lydia and Media were fixed at the Halys, and the relations between the two countries settled by treaty, 585 B.C.

From the words of Herodotus, one is tempted to believe that the very place of the crossing may still be traced. A bridge made at so early a period was probably placed where nature offered special facility, and we might hope that the crossing would strike the eye of any traveller by some marked features. It was perhaps situated at the very place where we crossed by a Turkish bridge last June. In going from Ancyra to Yuzgat, six hours south of Pteria, we took not the north road by Kalejik, which Perrot followed, but another road that crosses the Halys further south at a very remarkable place. The broad river flowing north through a wide level plain is obstructed by a great mass of rocks, through the heart of which it forces its way in a deep narrow chasm. The point where the river suddenly contracts is, as Sir C. Wilson remarked,¹ exactly the place where a bridge of an early period might be looked for.

The north road by Kalejik is nearer the direct route between Ancyra and Pteria than the south road. One must suppose that the southern and longer route was preferred from the facility of the bridge over the Halys; and the route coincides better with known remains. On the road leading direct south from Boghazkeui to Yuzgat, we found half-way an artificial mound: Sir C. Wilson said that this was the point where the road from Tavium would naturally join the road we were travelling, and that the mound might mark the site of a guard-house. Between the mound and

¹ The remark was made with reference to the Roman period, when the principle of the arch was thoroughly developed. Close to the eastern bank there is a large artificial mound, such as are very common in Cappadocia and Lycaonia, and were called by the ancients "mounds of Semiramis." Strabo attributes to the Syrians the invention of roads, bridges, and artificial mounds, p. 736.

Boghazkeui, the road goes through a long narrow glen, and Pteria was placed on the hills at the point where this glen opens to the north on a wide plain. The Royal Road may have traversed this glen, passed the artificial mound, and gone on straight to Tavium, whose cultus of Zeus was one of the chief religions of Eastern Galatia. From Tavium the southern route to Ancyra is more direct than the northern, though it would appear that the later Roman road took the northern. Two mile-stones, the thirty-fifth and thirty-ninth, have been found at Kalejik (C.I.L. iii. 309, 310); they must mark the Roman road.

After crossing the Halys, the Royal Road probably went by Ancyra, the name of which marks it as an old Phrygian city, while its foundation was attributed to Midas (Paus. i. 4, 5). Some remains of its early art still exist (Perrot, p. 224 and pl. 32). A fine lion in relief on a slab of stone, built into a Turkish fountain, shows the peculiar art of Asia Minor at its best. M. Perrot also gives a photograph of a marble lion in Angora; it is carved in the round, and is much decayed. At the crossing of the Halys, there sits by the roadside a lion also of marble, which may perhaps also belong to an early period. The natives spoke of cuttings among the rocks beside the bridge, but I did not succeed in finding anything except one small niche of peculiar form.

From Ancyra the road went by Gordium. The site of this town has not yet been found, but after Mordtmann's excellent discussion,¹ no doubt remains that it is in the Haimaneh district, west from Pessinus, on the other side of the Halys. The Royal Road must therefore have passed close to the rock-cut monuments of Giaour-Kalessi in the Haimaneh, whose similarity at once to the pseudo-Sesostris figures near Nymphio and the sculptures of Pteria, is so marked. Gordium was one of the great commercial towns of Phrygia (Livy, xxxviii. 18).

From Gordium the road crossed the Sangarius to Pessinus,

¹ "Gordium, Pessinus, Sivri Hissar," in Munch. Gel. Anz. 1861; Perrot, p. 154.

the most famous of all the centres of Cybele-worship, and also a great commercial city (Strab. xii. p. 567).

Next it passed by Orcistos, the old city which, in its later decline, still boasted of the ancient roads that passed through it and of the early kings who glorified its history (see Mommsen's commentary on C.I.L. iii. No. 352, p. 67). In another place I have traced the gradual decay of Orcistos and the other ancient cities of the district, and the rise of the later city Nacoleia, showing the connexion between the prosperity of each and the road on which it lay.¹

Thence the road went straight west to cross the Phrygian mountains. It passed through the rock necropolis beside the Tomb of Midas, and close to the important city, which has been described in Journ. Hell. Stud. 1882, pt. i. At the point where it entered on the valley in which these remains are situated a strong fort on a rocky hill commanded it; this fort, now called Pishmish Kalessi, has been described and engraved by M. Perrot (p. 144 and pl. 8). The road can still be actually traced in the rock beneath the fort, and a few miles north-west, beside Doghanlu Kalessi. In corroboration of this bold statement, I may quote a sentence from a letter of Sir C. Wilson, written from quite another point of view: "The fragments of a road we saw near the old Phrygian city . . . I could not be certain of without laying down my sketches; it at any rate crossed the Phrygian mountains more or less at right angles." The road is made like the early Greek roads, described by Col. Mure (*Tour in Greece*, ii. p. 251) and by Curtius (*Gesch. d. Wegebaus b. d. Gr.* p. 13). Two parallel ruts for carriage-wheels to run easily are cut in the rock.² I have traced exactly such a rock at Phocaea, coming from the old mill-stone quarries down to the water. This road is therefore no Roman work, it belongs to an older stage of civilization and an older system of routes.

¹ Journ. Hell. Stud. 1882, pt. i. "Inscr. fr. Nacoleia."

² I have unfortunately no note of the breadth between the wheels. On the breadth of Greek waggon-roads see Mitth. Inst. Ath. iii. p. 29.

It went on slightly north of west to Kirká (*i.e.* "Forty Aghas"), where an old village named Pontanos was situated in the Roman period. At this point it crossed the mountains, which form a plateau running north and south with perpendicular sides. Thence the course of the road is quite uncertain:¹ it joined the Hermus valley at some point, and crossed the Katakekaumene probably near Coloe, the great priestly centre of the district. It entered the middle Hermus valley just opposite Sardis, passed close beside lake Coloe and the Lydian necropolis, and ended at the nearest strong point on the opposite mountains, the steep hill on which Sardis was founded.

Such was the main road across Asia Minor in the earliest period to which our knowledge extends: it was maintained in defiance of the natural difficulties, through the necessity for intercourse between Sardis and the north-east; and when Sardis ceased to be a capital city and Pteria disappeared from history, this road also sank into decay. It was unsuited for a commercial route, and trade with the east either turned towards Sinope, or was under the Persians carried across Lycaonia to Celaenae and the Lycus valley. The latter road is the one of which we hear throughout the Greek and the Roman period; but Strabo (p. 539) knew that it was not an ancient route. The red earth of Cappadocia was called Sinopic, being brought by Sinope before the land trade-route had grown. Another probable route of this early period has been described in the *Bulletin de Corresp. Hell.* 1882 (July); it led from the city of the Midas-Necropolis by Ayazeen and Hieropolis (Sandukli), in an almost straight line south to Celaenae.

As civilization found new centres, a new road-system was

¹ It perhaps passed through Bennisoa (Altuntash), with its priestly college, Bennisitai, of Zeus Bennisos. This supposition connects it with a religious centre, and coincides with a route marked by nature and still followed, by Ushak and Koula. It may also have gone through Konni, a still unknown site, which was certainly not very far from the line of the road. The name may be an old religious one, like Apollo Kunneios with his hereditary priests the Kunnidai at Athens. The most probable route however is by Ancyra, and thence down the Hermus by Kadoi to Coloe.

required. The connection between Asia Minor and the East was broken. The Hellenistic and Roman periods encouraged a system in which Ephesus was the port where the merchandise of Asia Minor was collected for transport to the West. Apameia-Celaenae and Mazaca-Caesareia were the two chief emporia of the interior, to which the productions of the country were brought, and the great road was that which connected these three important cities. The foundation of Constantinople introduced a new centre and a new system of roads, which has lasted till the present time. The great lines of communication all lead to Constantinople. Apameia is now no longer on the direct road; and though nothing can altogether neutralize the advantages of its splendid situation, which will become once more apparent when the railway reaches it, its history has been a declining one ever since the foundation of Constantinople. Caesareia-Mazaca, on the contrary, continued as important as ever under the new system. It is as well placed for the connexion with Constantinople as for that with Ephesus and Rome, and it continues to be the great eastern centre of trade.

Each of these three periods in the history of Asia Minor must be separately studied; in each it will be found that certain points are of great importance, which are of no consequence in the others, and hardly a case exists where the same city has maintained its importance through all three. In the first period Sinope and Miletus for the sea-borne traffic, Pteria and Sardis for the land roads, were the chief centres. In the second period, Ephesus,¹ Apameia and Caesareia took their place. In the third period, all tend to Constantinople.

¹ Ephesus takes the place which Miletus or any port on the Maeander valley would have held had their harbours remained open. In later time Ephesus also lost its harbour, and trade passed to Smyrna.

II.—THE ROCK-SCULPTURES OF BOGHAZKEUI AND EYUK.¹

The wonderful rock-sculptures near Pteria are, as M. Perrot has proved, a series of religious representations. I believe that their explanation has been hindered by one misconception of Perrot's, whose account is in general accurate and sympathetic. Many of the figures which he considers male seemed to me undoubtedly female. I came to Pteria fresh from the perusal at Ancyra of the only copy of M. Perrot's *Voyage* that exists in Asia Minor; but, after two hours' examination, Sir C. Wilson and I both came independently to the same conclusion, that the majority of the figures were female. We were fortunately able to remain a second day at Pteria, and I spent about five hours examining every figure specially in this regard. In many cases the sex is quite uncertain, but only a few are certainly male, and a large number are certainly female. On the whole, I came to the conclusion that the sculptures were the monument of a religion in which the female sex played a much more important part than the male, and that in various cases where the sex was doubtful, the probability lay on the female side. Bachofen (*das Mutterrecht*), along with many untenable hypotheses, has shown how great an influence belonged to the woman in Asia Minor, and this influence is of course creative of or dependent on religious sanction: and Gelzer has proved that the Lydian religion attached special importance to the female (Rhein. Mus. xxxv. p. 516). The character of the sculptures at Pteria is therefore in accordance with the analogy of Asia Minor.²

Two facts suggest a false idea as to the sex of the figures. In the first place the great mass of the figures fall into two long lines turned towards a central point. The series of figures on the left is headed by three gods, that on the right

¹ These notes are printed solely from the wish to call attention to a remarkable series of sculptures, which have as yet been almost completely neglected. In our hurried journey there was no opportunity of examining them sufficiently. Now Herr Hermann has been charged with the duty of bringing casts to the Berlin Museum, and there is every reason to hope that the sculptures will soon be accessible to study.

² This view was not suggested by a preconceived theory; in reality it suggested ideas which have gradually led to the general theory of early history in Asia Minor here and elsewhere expressed.

by a goddess; almost all the figures on the right are clearly female, several of those on the left are equally clearly male. Hence the idea arose that the figures of the right are female, of the left male. But this idea cannot be carried out completely. The goddess who leads the procession on the right is followed immediately by a youthful god standing on a leopard; and in the series to the left there are several female figures.

In the second place, the wearing of the short tunic seems to prove that more than half the figures are male. Closer examination makes this doubtful. Most of the figures are armed, and it is obvious that if women are going to fight they cannot wear long sweeping robes. Female warriors were one of the most remarkable characteristics of the religion of Asia Minor and particularly of Cappadocia; and I should not hesitate to consider the twelve armed figures¹ in the narrow passage opposite the most mysterious and perhaps the most sacred figures of the whole to be Amazons.

The idea of women as fighting and as warlike, finds its religious justification in the warlike goddess who was one of the chief manifestations of divinity: and the masculine air, the short dress, the flatness of the bosom, are quite in the spirit of a religion, of which it is characteristic to raise itself above the distinction of sex. Its essence² lies in the adoration under various forms of the life of nature, that life subject apparently to death, yet never dying, but reproducing itself in new forms, different, and yet the same. This perpetual self-identity under varying forms, this annihilation of death through the power of self-reproduction, was the object of the enthusiastic worship of Asia Minor with all its self-abandonment, its periods of complete immersion in the divine nature and of superiority to all moral distinctions and human ties, its mixture of the obscenest symbolism and the most sublime truths. The mystery of self-reproduction, of self-identity amid diversity, is the key to explain all the repulsive legends that cluster round that worship, and all the manifold mani-

¹ Perrot, *Voyage Archéologique*, pl. 52.

² I must here assume unproved that theory of the character of Phrygian religion which seems required by the facts of its history.

festations or embodiments of the divine life that are carved on the rocks of Pteria. The parent is the child, the mother is the daughter, the father the son; they seem to men different; religion teaches that they are the same, that death and birth are only two aspects of one idea, and that the birth is only the completion of the incomplete apparent death.

One of the central ideas in the religion is that the distinction of sex is not ultimate, is only an appearance, and not a real element of the divine life. In its essence that life is self-complete, self-sufficient, continually existent; the idea of death comes in with the idea of sex, of incompleteness, of diversity. The goddess is the earth, the Mother; the god is the Heaven, the Father; the ultimate divinity comprehends both heaven and earth, both god and goddess. Hence arises the idea which appears in Greek art as the Hermaphrodite, merely a rude symbolical expression of the unreality of sexual distinction. Hence also arises the tendency to confuse or to obliterate the distinction of sex in the gods, to represent the goddess with the character of the man, the god as womanly and effeminate; while the priest of the religion must be neither male nor female.

The wearing of bracelets and earrings is of course not peculiar to women, but is practised in many countries by men. But I am obliged to say that I could not find them on any figure certainly male with one exception, and this exception furnishes a strong presumption that they were in Cappadocia a feminine ornament. It is a figure that occurs three times at Boghazkeui, and twice at Euyuk,¹ and M. Perrot rightly comes to the conclusion² that it must be the high priest; and it is easy to recognize in it the effeminate character, the soft outlines, the long sweeping dress, the ornaments of the eunuch high priest so well known in the cultus of Cybele.³ This view, to which M. Perrot inclines,

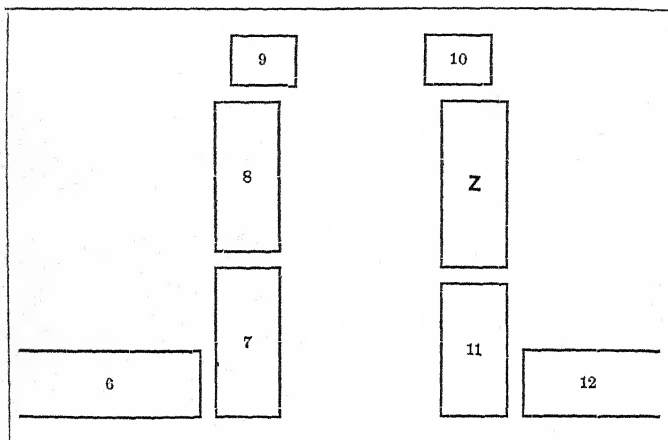
¹ Perrot, pl. 42, 47, 50, 51, 56. Euyuk is five hours north of Pteria. Here, out of the side of one of the large artificial "mounds of Semiramis," appear the doorway and front, covered with sculptures, of some great palace or temple.

² p. 337.

³ I must however add that at Ibriz both the husbandman-god and his bearded priest wear earrings. Lydian men wore earrings (Xen. *Anab.* iii. 1, 31).

is made quite certain by the subject of the following slab at Euyuk, which was not seen by him: Sir C. Wilson got the villagers to turn over a block, and disclosed one of the most interesting scenes of the whole series.

The accompanying plan shows the position of this slab, which is lettered Z.



It is on the right hand as one enters the great doorway, guarded by the two Sphinxes (9 and 10). The two blocks on the left side of the entrance (7 and 8) are each 6 feet 6 inches long; so that the length of the entrance way is exactly 13 feet. Now Z is 7 feet 3 inches long, and the block (11) is 5 feet 9 inches long, so that these two exactly fill up the right side of the entrance way. It is remarkable that there is no sculpture on the side of the block (11); while on the short end which forms the first slab of the series in the front wall, the seated deity, Perrot, pl. 66, is carved. Both the blocks (7 and 8) on the left side of the entrance way are adorned with reliefs; one of those on the right side is carved, and the other is left plain. I know no explanation of the apparent anomaly.

At the right hand of the scene on the slab (Z) a deity sits with the feet resting on a footstool, one in front of the

other; the figure is much worn, but in all that remains it is exactly the same as the seated goddess on pl. 66. Towards this deity a procession advances, headed by the figure of which we are speaking. His dress is the same as in all the scenes where Perrot has engraved him: in his right hand he, as usual, holds the *lituus*, while with the left he pours from an oinochoe a libation, which falls on the front foot of the seated deity. Behind him is the priestess, with her hands in the position that seems to be characteristic of women in the art of Cappadocia. The right hand holds out some round object in front of her face, the left hand carries some object to her mouth. It is now impossible to tell whether she wore earrings. She is dressed in the long sweeping dress which she wears in the scene on pl. 56, fig. 1. Behind her come two other figures, which are much worn; they seem to have been dressed in short tunics and a cloak which hangs so as to cover one leg and leave the advanced leg bare. The figures at the extremities of this slab have been destroyed by the small stones on which it has fallen. Fortunately the two in the middle have not suffered so much, and it seems hardly open to doubt that they are the chief priest and priestess of the cultus; and the same view is suggested by the scene on pl. 56 (Perrot). Here also the subject seems to be a procession approaching the divine presence. An altar of peculiar shape is placed in front of a small figure of a bull, evidently a religious symbol, standing on a high pedestal. The very same male and female figures, in the same dress, the male carrying in his right hand the *lituus*, approach the altar. The priestess wears earrings.

At Boghazkeui the priest is seen three times (pls. 42, 47, 50, 51). On pl. 50-1 he is represented walking beside a tall figure, whose arm is affectionately twined round his neck. Perrot would fain make this pair a man and woman, but is obliged to acknowledge that the little figure is clearly male. To our eyes the tall figure is equally clearly female. It is in high relief, and the face stands out from the rock with an exquisitely delicate contour—bold, determined, and yet femi-

nine. The figure is far the finest of all the series, and looks almost like the creation of a different art. In the midst of rude work and inartistic symbolism, it recalled to me the Amazons of the Maussolleum frieze.¹ It is evidently the *Νικηφόρος θεά* of an inscription of Comana (Journ. Philol. 1882), the warlike goddess who was characteristic of the Asia Minor worship. Like the Lydian Omphale, she bears the weapons, and her male companion is the effeminate and unwarlike god.

This companion is Atys, at once her favourite and her priest, her son and her paramour. The god was the type of all succeeding priests, who bore at Pessinus his name as an official title:² each priest wore the insignia, and was said to imitate the self-mutilation of the god. That priests and priestesses should wear the dress, bear the name, and represent the personality, of the god whom they served, was common in Greek religion also. The priests of Bacchus were Bacchoi, the female celebrants Bacchai; the priests of Sabos or Sabazios were also called Saboi; and many other examples may be found in Hermann, *Lehrb. d. Gr. Rel.* § 37.

The frequency with which the priest appears shows how great was his importance in the religion, and his influence among the people. He was the embodiment of the god living always among his people and explaining to them always through the oracle, which was a never-failing accompaniment of the Asian religion, the will of heaven. This is in complete agreement with all that we know of political organization and government among the people of Asia Minor, before they were affected by Greek influence. Either the priesthood comprehended the kingdom in itself and exercised supreme power, or the priest was at least coordinate with the king in rank and social power.³ The same thought is suggested by the scene

¹ One who looks at the plates in Perrot, 50 and 51, will at once say that I am wrong on this point, and that the figure is certainly female. But before judging, one should bear in mind that the photograph on pl. 51 is useless, and that the drawing on pl. 50, being made by one who thought the figure male, loses all the feminine character.

² See Inscr. published by Mordtmann, "Gordium, Pessinus, and Sivrihissar," *Munch. Gel. Anz.* 1862.

³ Str. p. 557: Curtius on Ephesian history, *Beitr. Gesch. Kleinas.*

on pl. 47 (Perrot). Here the priest is represented as of superhuman size, standing with his feet on two large objects, in shape like cones with rounded points; these are quite different in character and form from the mountains on which the gods stand. He is evidently the apparent god, coordinated with the other manifestations of the divine nature on the rocks around, smaller in size than the greatest of these, but larger than many of them. In all the three cases where this figure occurs at Pteria, it is accompanied by a remarkable symbol: this symbol is not always the same, but the three are only slight modifications of one type. The variations are doubtless of great importance, and will in time perhaps throw much light on the scenes in which they occur. They are all composed of symbols, such as occur in the hieroglyphic inscriptions that are characteristic of the rock-sculptures of Asia Minor, so placed together so as to form something like a *naiskos*, bounded on each side by two Ionic columns. In the example of pl. 47, a figure of a man in peculiar dress, standing on a long boot laid on its side, is represented between the columns: in the example on p. 50, where the goddess stands beside her priest, the same position is occupied by what Perrot considers to be undoubtedly a *phallus*.

It follows from the nature of this religion that on the rocks of Pteria we must expect to find in the diversity of divine personages many various manifestations of the one divine life. The attempt to explain them must begin by studying the cases where the same figure is repeated with slight variations, and must have at its disposal either the original sculptures or satisfactory representations of them. The photographs published by M. Perrot, welcome as they are, cannot be made the basis of a satisfactory discussion. In every figure I could see numberless details which are quite invisible on the photographs: the light is very bad among the rocks, the apparatus can often not be put at the proper position, and nothing except either a series of careful drawings, made with the help of photographs, or a complete set of casts, can supply the place of the originals.

The head of the series of figures on the right is a female deity standing on a lion, which has its feet placed on four mountains. On her head is the turreted crown, which was in Greece the distinguishing mark of the Asian goddess Cybele, but which, from its frequent occurrence at Pteria, can hardly be more than the mark of womanhood, of the female sex in its properly female function and not as setting aside the distinction between male and female. She holds her hands in the attitude which is characteristic of women in the art of Cappadocia; the right hand raises a symbol in front of her, the left holds some object towards her mouth. She is followed by a youthful god standing on a leopard, whose feet also are planted on mountains. In this pair one must recognize the mother and son, Cybele and Atys in one of his manifestations, Demeter and Dionysos. The leopard on which the god stands is the favourite animal of the Greek Dionysos. A few other examples of the connexion between the sculptures of Pteria and the religion of Phrygia and Lydia have been given in *Journ. Hell. Stud.* 1882. But few of the figures on these rocks have their character so plainly expressed as these examples; and without better material for study, the whole set must remain unexplained.

III.—ARCHAIC PHRYGIAN INSCRIPTIONS.

The copies of these inscriptions have been made very carefully, and with special attention to the forms of the letters. I had Mordtmann's copies of Nos. 1, 2, 3, 7, 8 and 9 in my hands, and compared them with the original; in them I found more than twenty inaccuracies. Steuart is far more trustworthy, but he has several faults, and did not copy accurately the shape of the letters. Texier has also copied Nos. 1, 2, 7, 8 and 9.¹

¹ Steuart, *Ancient Monuments of Lydia and Phrygia*; Mordtmann, *Sitzungsb. Bair. Akad.* 1862, p. 35; Texier, *Asie Mineure*. As the Phrygian alphabet does not distinguish long and short vowels, the inscriptions cannot be transliterated by the Greek symbols; I have therefore used the Roman character to transcribe them. I shall often refer to M. Schmidt's remarks on these inscriptions (*Neue Lyk. Stud.* 136), and to Fick's discussion of the Phrygian glosses in the last

As in all archaic Greek inscriptions, it is difficult to distinguish *gamma* and *lambda*. One of these is represented always by Λ , the other is given as Γ , or \uparrow , or τ , or perhaps \dagger . It is more in accordance with analogy to make the former *gamma*, and the latter *lambda*:¹ this reading gives words easier to interpret in the inscriptions. For example, in No. 12 we have the choice between *matar kubile* and *matar kubige*, in No. 1 between *laraltai* and *garagtai*.

Another difficult symbol occurs in two forms, used in the same word in Nos. 2 and 5: the forms are ϕ and \uparrow .² It occurs in the first syllable of a word between *kappa* and *iota* and can therefore hardly be *koppa*. Nor can it be *phi*, for aspirates are not found in Phrygian. It must therefore be some symbol unknown in the later Greek alphabet, such as occur in the alphabets of Caria, Lycia, and Pamphylia. The two variants have very little resemblance to one another, but one of them is not unlike the symbol used in *la γ it*, No. 7. It is not allowable to understand this symbol as *psi*, for no symbol *xi* is known, and *xi* is older than *psi* (see Kirchh. *Gr. Alph.* p. 38). If the form Υ is a variant of \uparrow , the sound may perhaps be a palatal sibilant, like that which is represented by the symbol τ ψ or γ in Carian, Lycian, and Pamphylian. The oldest form must then be ϕ or φ , and later forms are τ , ψ , Υ and \uparrow . If this hypothesis be correct, $K\Upsilon$ in the older Phrygian inscriptions represents *xi*, which in No. 7 (the latest of all in my opinion) is represented by $K\Sigma$.

Zeta is one of the commonest symbols. According to Fick it represents an original *gh*. It occurs frequently as the final letter (see 7, 8, 9), and must in these cases represent simply a soft sibilant. We find that on coins of Brouzos, the only

chapter of his *Ehemalige Spracheinheit*. I may add that in every discrepancy between my reading and the published copies, the reader may understand that I specially compared the older copy with the stone. I made my own copies of 1, 2, 3, 7, 8, 9, compared them with the older copies, and then compared each with the stone. Time failed me in the case of 4, 5, 6.

¹ The form \uparrow for *lambda* occurs in an archaic inscription of Arcesine in Amorgos, a Milesian colony (*Bull. Corr. Hell.* 1882, p. 187): \uparrow and \dagger were used for *lambda* in Argos.

² The second form may possibly be more complicated, as the stone is worn.

autonomous specimen spells the name with *sigma*, all the later ones with *zeta*:¹ and in the inscriptions, a final *zeta* occurs very frequently in 7, 8, and 9 (the latest), rarely in any other.

Theta and *H* are the only old Greek letters that are wanting in Phrygian. No aspirates occur either in the early Phrygian or in the Phrygian inscriptions of the Roman period; and cases occur where an original aspirate is represented by the corresponding consonant. The language had therefore, like Latin, lost the aspirates and did not need the *theta*. Perhaps the want of *H* is accidental, and it might be found if longer inscriptions were known.

Sigma is represented in the oldest inscriptions by a seven or five-barred zigzag, like a serpent: then seems to come a four-barred *sigma*, and last, a form with three bars, the usual one on early Greek inscriptions. In the Attic alphabet the four-barred *sigma* seems to be later than the three-barred, but in Naxos, where the alphabet can be traced very far back, the four bars occur in the oldest known inscriptions, while the three bars are known only in those which are later.²

It is natural to inquire how the Phrygians learned their alphabet. It is evident that they use the Greek alphabet, and not the Phoenician; they employ the *upsilon*, and have modified the same symbols to serve as vowels that the Greek alphabet uses for this purpose. Therefore, either they learned from the Greeks or the Greeks from them.

It is impossible for two reasons to believe that the Phrygians originated the alphabet. In the first place the Phrygian alphabet has no *theta*, while the Greek has this Phoenician symbol. Secondly, the original Phoenician form is retained more closely, especially in the case of *iota*, in Greek than in Phrygian. It seems certain that Phrygian was borrowed from Greek at a particular stage of its de-

¹ *Num. Chron.* viii. p. 59: *Annali*, 1861, p. 149.

² Even those which are later go back nearly to the sixth century: see Fränkel, *Arch. Ztg.* 1879, p. 84.

velopment. If so, how did the Greek alphabet travel so far away from the Greek world as the source of the Sangarius?

Before trying to answer this question, let us look at No. 13, which is inscribed on two sides of a large block of the country stone in the village of Euyuk; it is evidently the same as that copied by Mordtmann in the same place (No. 14), but he did not observe that the stone was inscribed on two sides. It is probably hopeless to think of explaining this inscription; but the fact of its existence beyond the Halys, in a country where many inscriptions in hieroglyphics occur, is very remarkable. Euyuk is, as we have seen, an early site where the art and religion of Cappadocia are presented in the same forms as at Pteria. The same alphabet with the same peculiar character, the same elongated *tau* with a little cross line at the top, the same five-barred *sigma* of serpentine form, etc., occur at Euyuk and in Phrygia.¹

In attempting to connect the scattered fragments of the past history of Asia Minor, this fact is very important, and two inferences may be drawn from it. In the first place, the inscription at Euyuk must be transliterated on the analogy of the Phrygian inscriptions. In the second place, any theory as to the way in which the Phrygians learned the alphabet must account for the use of the same alphabet in Cappadocia.

The first idea that occurs to one's mind is that the Phrygians learned the alphabet from the Greeks of Ionia. If so, it must have been learned by the Lydians first, and must then have been imparted by them to the Phrygians, and thence have spread into Cappadocia; we should then have an instance where education propagated itself back from the west to the east of Asia Minor. This could not begin to take place before the rise of the Mermnad dynasty and the opening up

¹ I do not think that the inscription from Euyuk in symbols partly Greek given by Hamilton, Travels, i. p. 329, is to be relied on for the forms of the letters. Hamilton is an accurate observer in most respects, but he had not realized the value of such details, as is evident from his Greek and Latin inscriptions.

of Lydia to Greek influence, *i.e.* at the very earliest 650-600. Now all that can be gathered as to the state of the Ionic alphabet at this time proves that it was much more developed than that from which the Phrygian is borrowed. None of our extant monuments go back much, if at all, beyond the year 600, but at that time it is certain that the distinction of the long and short vowel *e*, the compound consonants ξ and ψ , the non-Phoenician symbols ϕ , χ , had all been developed. But it is equally certain that the Phrygians learned an alphabet which had none of these later characteristics; and it will perhaps appear that the Phrygians actually felt the want of a long vowel symbol, intermediate between *a* and *e*. It is therefore not possible to suppose that the alphabet was transmitted by this route without putting it back to a period when we can find no warrant and no analogy to prove that intercourse existed between the Greeks and the inner country. Only the last necessity would justify such an hypothesis.

The Phrygian inscriptions occur on monuments which show no mark of Hellenic influence, but some of which are obviously made after the analogy of Oriental work. The style of these monuments, so far as he saw them, has led M. Perrot to the same conclusion, *viz.* that the country was at the time under the influence of the east, and was quite ignorant of Greek art. Later than these inscribed monuments, we see the art of Greece forcing its way into the country, and gradually establishing itself and ousting the Oriental character.

Moreover, let us consider how far we are warranted in supposing that intercourse existed between the Ionian Greeks and the interior of Phrygia, even in the fifth century. It seems probable that Herodotus has brought together all that he could learn of the character and the history of Asia Minor in his great work. The only references which he makes to Phrygian history are: (1) the episode of the refugee Adrastus at the court of Croesus, (2) the statement that it formed part of the dominion of Croesus, (3) the tale of the throne dedicated by King Midas at Delphi

before the time of Gyges, which is a statement that one may hesitate to accept as historical. Of the geography of Phrygia we learn nothing from Herodotus, except his account of Celaenae and the Lycus valley. This district he had himself traversed,¹ and here his account is minute and careful: the contrast with his utter silence about the rest of Phrygia has already been taken by others as a proof of his ignorance of the country. Of Cappadocia he knows more than of Phrygia: and here the reason is clear. He had gone to Sinope, had coasted along past the Halys, and had learned from the Greek traders about the distance across to Cilicia, about the course of the Halys and the bridge over it, about Pteria.² Here again the contrast to his silence about Phrygia is a proof of his ignorance about the latter country. It would therefore appear that the knowledge possessed by the Greeks in the fifth century about the interior of Asia Minor was confined to the reports of traders in Sinope, and to the open valley of the Lycus; of its history they knew only the cases where it had come in contact with the Lydians, and vague reports about kings who reigned on the Sangarius, and who possessed well-built cities (Hom. *Hymn. Aphr.* 112). One of them was said to have presented his own beautiful throne to the god of Delphi (Herod. i. 14).

At the time of Xerxes' expedition the Phrygians were armed like the Paphlagonians and Cappadocians, while the Lydians were armed like the Greeks. The distinction shows that the Lydians had adopted Greek habits much more thoroughly than the Phrygians; doubtless the warlike Mermnad kings, who encouraged the Greek connexion, had adopted the improved Greek method of warfare.

These considerations suffice to show that the Greek alphabet could not have travelled from Ionia direct into Phrygia in the seventh century.

Let us now consider the situation of Asia Minor before

¹ Its trade with Miletus is probably alluded to by Hipponax, *fr.* 36, Bergk.

² The ideas here stated are exactly those at which Matzat arrives, "Herodotus's Angaben über Asien," in *Hermes*, vi. pp. 392-486.

650 B.C., as revealed to us by the remains of its art and civilization. We have found that there was a considerable intercourse maintained between Pteria and the western countries, that the art of Phrygia and of Lydia is at first a mere reproduction of and in a more developed form still suggested by the art and civilization of Cappadocia. Let us now compare the picture drawn by Curtius of the commercial importance of Sinope¹ as the emporium of exchange between the east and the Greeks (*Gr. Gesch.* i. 405), and remember that Pteria is immediately south of Sinope on the high road between it and the east, and that the two cities are named in connexion by Herodotus. It is certain then that Pteria and Sinope were in constant intercourse, and it becomes probable that the Greek alphabet was introduced at Pteria through this connexion, and thence spread to Phrygia. This supposition is in perfect analogy with all that we know of the state of Asia Minor in the eighth and seventh centuries, and requires no hypothetical addition to the forces that we know to have been then actually at work moulding the history of the time. The Greeks of Sinope got from Cappadocia the manufactures of the East; but they had a far more serviceable method of writing, which was doubtless of use in commercial transactions. The Cappadocians learned the art from the Greeks, and the Phrygians, learning it from the Cappadocians, apparently turned it to account far more than their teachers. The same historical phenomenon can be seen in the western colonies. Etruria and Latium learned the Greek alphabet from the traders of Cumae, the Celtiberians from the Greek colonies of Spain.

Now Sinope was destroyed, and the northern parts of Asia Minor, including Phrygia, were ravaged by the Cimmerians probably about 670 B.C. The city was not refounded till 630: and the reasons above given make it improbable that the alphabet was learned later than this date. It follows then that the Phrygian and Cappa-

¹ Sinope was a colony of Miletus.

docian alphabet reveals to us the stage at which the alphabet of Sinope and its parent city Miletus was in the eighth century B.C.

Did the Phrygians learn from the Milesian colonists the non-Greek symbol ↑ or ϕ, or did they invent it? Its occurrence in Caria, the country where Miletus lay, proves that the former alternative must be adopted. We are referred back to a time when the Greeks were still trying to accommodate the Phoenician alphabet to their own needs: it is known that this operation required a long time and many tentatives to perform. The first modification on the Phoenician alphabet was the institution of vowel signs: this had been accomplished before the Phrygians learned to use Greek signs. Next, the need of special symbols for some consonants, and for the distinction of long and short vowels *e* and *o* was felt. It required many tentatives to satisfy the want, and various methods were tried. The Naxian and Thasian group of alphabets use Ω for the short sound, others do the opposite: some use Υ to denote the guttural aspirate, others to denote *psi*. Finally the Ionic alphabet, completed before 600 B.C., gradually established itself over Greece and Asia Minor. At the time when the Phrygians adopted the Greek signs, the Ionian alphabet was still in process of formation, and Υ had not yet acquired its final signification. The steps in this process have not yet been determined, but materials are gradually accumulating for it; and important evidence may be furnished by the semi-Greek alphabets of Caria, Lycia, and Phrygia. Apparently, the Ionic alphabet had not begun to distinguish the long and short *e* and *o*, at the time when the Phrygian alphabet diverged from it; but it was introducing new consonantal symbols. Unfortunately the want of aspirates in Phrygian deprives us of all information about possible symbols for *phi* and *chi*. None had yet been devised for *xi* and *psi*.

Nos. 1, 2, and 3 form a group, connected with the Tomb of Midas. No. 1 is engraved on the rock above the tomb, No. 2 on the carved work at the right-hand side: it runs

vertically from top to bottom.¹ Both read from right to left, and the letters are of great size, deeply and squarely cut. All the lines are beautifully regular and fine.

1. *ates arkieaeFais akenanolaFos midai laFallaei Fanaktei edaes.*

Ates is doubtless the nominative singular of the stem *atu* or *attu*, the name of the chief Phrygian god. It occurs as a personal name in the Lydian royal family: it was the regular official name of the high-priest of Pessinus. *Ató* occurs as a feminine name in Phrygia. Phrygian cities are often called "Town of Attu," so *attaia* (for *attaFia*), *attoudda* (*cp.* *Aloudda*, *Clan-noudda*). *Attea* of Mysia is also doubtless derived from *attaFia* or *atteFia*. The termination *-ês* is common in Phrygian, *e.g.* *Tottês*, *Onnês*, *Iês*, *Hyês*, *Attês*.

arkiaeFais. The combination *ae* occurs frequently. It may be a device to represent a vowel sound unexpressed by the Greek alphabet.

akenano-laFos may be compared with *Doru-laFos* or *Dorulas*, a Pontic name, implied in the Phrygian town *Doru-laF-io-n*, and with the Greek *Ἀχιλεός*, *βασιλεός*. *AkenanolaFos* is a genitive, and the accusative occurs in No. 6 as *akinanolaFan*. The word therefore belongs to the consonantal declension, the termination *av* in the Greek third declension is known in several dialects, especially Cypriote. We have an exact parallel in the very common Phrygian name *Akulas*; this is evidently the same as the Lydian *Akelês* or *Ἀχελῆς*, a river god and hero, and the original of the town-name *Akkila-io-n* for *ἈκκιδάF-io-v*, known from coins. *Akulas*, *Akeles*, or *Acheles* is evidently the Greek *Ἀχιλεός*, or *Ἀχιλλεύς*, and *Akkilaion* the same as *ἈχελόF-io-s*, *Ἀχελῷος*.

¹ It does not read upwards, as Leake says: a mistake on Leake's part is hardly known, but I had his book in my hand before the Tomb.

Midai is evidently the dative of Midas, which was one of the two common names for the kings of Phrygia.

lavaltaei is perhaps the dative of an *-i* stem, like *πολυη*: the stem is apparently the same as that of the Greek hero-name Laertes.

Fanaktei is the dative of the word which appears in Greek as *ἄναξ*; here it must obviously agree with *midai*, and it thus becomes *lavaltaei*, which is a dative, and a second name of Midas. It is probable that two other examples of the double name occur on this tomb, see No. 2.

edaes is evidently third personal singular of a verb. The original termination *-ti* of the present tense could not have become *-si* or *-s* in Phrygian as it did in Greek, for it remains in the later Phrygian inscriptions in the form *addaket*; *edaes* must therefore be a past tense. The *ae* is perhaps a long vowel sound, and we have in *edaes* the original *adhât*, Greek *ἔθη(τ)*; where the vowel *ae* is a sound between *a* and *e*. *ad-dak-et* is then the third person singular present of a stem *dhak*, which is seen in the Greek *θήκη*, *ἔθηκα*, etc., and it is compounded with a preposition *ad*. Phrygian, like Latin, has no aspirates.

The meaning, so far as we can guess it, is therefore, Ates . . . placed to Midas Laertes, the king.

2. *Baba memeFais proitaros ḵizanaFezos sikeneman egaes.* Along with this inscription we must take No. 5. *Bba memeFais proitaros ḵianaFezos akaralasun egaes.*

The two inscriptions are evidently duplicates, except that *sikeneman* in No. 2 is replaced by *akaralasun* in No. 5. There are three slight variations: *Baba* in No. 2, *Bba* in No. 5; *̱* in No. 2, *̱̄* in No. 5; *z*, which occurs in the fourth word of No. 2, is omitted in No. 5.

The first three words, *Baba memeFais proitaFos*, offer an exact parallel to the first three words of No. 1, *ates arkiæFais akenanolaFos*, and it cannot be doubted that a similar explanation applies to both. *Proitaros* is the genitive of a stem *proitar*, which reminds us of the Argive King Proitos

and his daughters the Proitides: the nominative must be either Proitu-s or Proitas (like *akulas*). *Memevais*, *arkiaerai*, are nominatives going with the opening personal names; the similar termination suggests that they are adjectives: Schmidt thinks that they are examples of double name—Baba, *ὁ καὶ Memevais*, son of Proitu: the double name is characteristic of Phrygia in later time.

Baba is a form of the common personal name Babas or Ouauas, on which see Journ. Hell. Stud. 1882, pt. i., "Inscriptions from Nacoleia."

Sikeneman and *Akaralasun* are evidently accusatives governed by *egaes*. The termination is probably neuter; see No. 7, *onoman*. *egaes* must be distinguished from *edaes* of the inscr. No. 1. There is no doubt about the reading. Moreover, *edaes* has a dative after it, but there is here an accusative instead. We must look for a root *ga*, not for a root *gha*, which would in Phrygian rather become *za*. Can this root be connected with the transitive sense of the root *gam* or *ga* seen in some parts of the Greek *βαλω*, and perhaps in the title *βασιλεύς*?¹

3. This inscription is engraved along the three walls of a rudely-formed cave in the rock on which the Midas tomb is cut. The cave is close to the carved front of the tomb on the city side. It is about five feet in breadth, and two and a half feet deep. At the left-hand side it is now about six feet high, at the right-hand side four and a half feet high; the roof slopes down from left to right. The inscription begins on the left-hand wall at the front, and runs along it in a horizontal line to the back. Then it continues along the back wall, not horizontally, but sloping, so as to be parallel

¹ If we consider the situation of these two inscriptions, one on the carved work of the Midas-tomb, the other facing the spectator as he ascends a flight of steps surrounded by rock-sculptures and rock-altars, the possibility suggests itself that both refer to the construction of the monuments around: then the inscription over the tomb of Midas (No. 1) is the dedicatory formula, that at the side is the record of the building—"the artist's signature." *Sikeneman* is then the designation of the tomb; *akaralasun* of the place where most of the interesting rock-monuments of the city are collected. No. 5 is carved on a panel, which has been left simply to strike the eye of the spectator; it has no connexion either with an altar or a tomb, but stands upright and isolated at the side of the steps. I need hardly add that this is a suggestion to which I attach no special value.

to the line of the roof. On reaching the right-hand wall, it is continued along it horizontally. The letters are about eighteen inches high, and have been cut one and a half to two inches deep in the rough stone. They have been cut apparently with a square chisel, about an inch broad, so that the sides of the cut are parallel.

The inscription reads: *as tugleniz ae esurzoꝝ totin*, and another word which is hopelessly gone. It consists either of four letters or five; if it has five, the first is certainly *i*. The second may be either *e* or *F* or *l*, but as the third is almost certainly *r* (it is possible that it is *b*), we can hardly suppose that the second is *l*. The fourth letter is probably *a* (*g* is possible, but we can hardly suppose it in this place). The last letter is either *i* or *z*, probably the latter. The admissible readings therefore are *ieraz*, *iFraz*, *Fraz*, *eraz*; it is barely possible that *r* and *z* should be changed to *b* and *i*.

There is room for *i* on the stone between *l* and *e* in the second word, and the surface is worn, but I could see no sign that it had existed. Mordtmann has *i* in his copy,¹ but his authority ranks very low.

The curious word *ae* occurs also in the very doubtful inscription 13; and *aez* probably occurs in 8.

Totin is, as Schmidt saw, the accusative of *Tottes*, the name of the Phrygian who, along with *Onnes*, brought the mysteries of the *Cabeiri* to *Miletus*. It is doubtless related to the personal names *Tatias*, *Tattion*, *Tata*, *Tataia*, and the name of the lake *Tatta*. *Tatias*:*Tatas*::*Marsuas*:*Masses*::*papias*:*papas*::*aineias*:*aini*. *Tatas* and *Tottes* are variants like *Atreus* and *Otreus*, *Attalos* and *Ottalos*, *Anes* and *Onnes*, etc.

4. This inscription is engraved on a rock above an altar; but great part of it has been broken away, and there was probably a line above, and certainly a continuation of this line to the right. The fragment reads *abasimanakio*. It is probable that the words in this inscription were not divided by marks of separation, and that these twelve letters do not

¹ I had his copy before me, and compared it with the stone to verify this point.

all belong to one word ; but Schmidt's attempt to read it of course falls to the ground when the position of the fragment is explained.

5. Is engraved on a large square vertical panel cut in a rock. This and the last inscription are within a few yards of one another, just below the rock sculptures described in the Journ. Hell. St. 1882, pt. i. "Rock Cemeteries of Phrygia." The reading has already been considered. The letters are about five inches high, and not finely and deeply cut like the first four inscriptions.

6. This inscription is engraved on one side of a very remarkable rock monument of religious character inside the Midas city (described *l.c.*). It is impossible to say whether the inscription is complete, but I think it is. The letters, about seven inches high, are unfortunately much worn, and some are very uncertain. It probably reads *akinanolaFan tizes mogro?anak a?arz.*

The first two words are quite certain. The third is perhaps *mogrolanak* or *arak*; final *k* occurs also in No. 8. The fourth word is probably *aFarz*, possibly *agarz*.

7. Reads probably *zosesait materez eFeteksetiz oFeFin onoman la y it lakegokex FenaFtun aFtaZ materez.*

This inscription is engraved on the uncut rock over a tomb which is carved in a slightly sunk niche. The letters are very large, deeply and squarely cut: as on the tomb of Midas they are beautifully shaped, the round letters perfectly circular, the straight lines perfectly straight. No. 8 is engraved, except three letters, on the carved front of the tomb, No. 9 is partly on the side of the niche, at right angles to the face of the tomb, and partly on the carved front. I have tried to mark by means of the dotted lines on the plate the difference of level between the uncut rock and the face of the tomb within the niche.¹

This inscription apparently falls into two parts, each of five words, and each beginning with a verb in the third person singular present. Each part contains the word

¹ Texier's plates make it easier to understand the character of this tomb and of the Midas tomb.

materez, each contains an accusative *oFeFin*, *FenaFtun*, and a word ending in *z*, *eFeteksetiz*, *gakelokez*.

materez is some case of the word that means mother, which occurs in No. 11 as *matar*: it is perhaps plural. With the vowels in *matar*, *materez*, compare Greek *μητήρ*, *μητέρα*. The second *a* in *matar* is remarkable, and may be compared with the Elean *πατάρα*. In a late Phrygian inscription of the class described at the end of this article, I find *etittetikmenos asti* instead of the usual *etittetikmenos eitu*. If Schmidt is right in making *eitu* the imperative, *asti* is the indicative, of the substantive verb, Greek *ἔστω*. The vocalisation in both *asti* and *matar* conflicts with the prevalent theory about the history of the vowel *e*. The resemblance of *onoman* to the Greek *ονοματ* is striking, but perhaps delusive; the termination *-man*, however, is doubtless the same as *-ματ*, both going back to the original *-mant*. A similar remark applies to the resemblance between *aFta^z* and *αὐτός*, Naxian *ἄFυτός*, Pamphylian *ἄΑτός*, i.e. *auutos* (see "*Pamph. Inscr.*" in *Journ. Hell. St.* i.).

8. *Frekun tegatoz gostutut?? aemnoz akenanolaFos aez materan arezastin bonok akenanolaFo[s]*.

This inscription, like the last, seems to fall into two parts of five words each. Each part ends with the word *akenanolaFos*, each contains an accusative *Frekun* and *materan arezastin*. If a verb could be discovered among the other words, it might be easier to understand the construction of the sentence.

Frekun is perhaps accusative of the Phrygian name, which is represented in Greek as *Φορκυς*, leader of the Phrygians at Troy (*Iliad*, ii. 862).

9. *atanizen kurzanezon tanelertoz*. As Nos. 7, 8, and 9 are on one tomb, it is possible that they should be read continuously; in that case 8 probably gives the beginning and 9 the end. The inscription seems metrical.

10. *Apela? o?ekusteFanos*. The first word is either *apelai* followed by punctuation, or *apelar*, or *apelan*. It is not quite certain that punctuation marks are employed in this inscription. The letters on the prepared part of the rock are finely

and deeply cut, after the fashion of the inscriptions 1-3. Those at the right-hand side are much worn and difficult to read with certainty. Apelan may recall Doric Apellon or Etruscan Aplun.

11. *matar kubile.....tozen*. This inscription was the only one that we found in the necropolis at Ayazeen. It is cut in the rock above a rock altar; the whole being placed in a deep oblong niche, about fourteen feet broad and eight in height. About forty letters in the middle have been purposely defaced by human hands. The last five letters, which are more sheltered than the first, are cut with the same deep square fashion as inscriptions 1-3.

It is very tempting to see here a place of worship of the Phrygian Cybele, and over the altar to read the invocation "Mother Cybele."

12. I did not observe, till too late, that this inscription, taken from Steuart, is a poor copy of that given above, under No. 6.

13. Is cut on a rock at the marble quarries of Docimion. It is doubtless Christian, like all the other rock inscriptions in and near the quarries.

About an hour west from Tricomia, now Kaimaz, on the road to Nacoleia, now Seidi-Ghazi, is a deserted cemetery. In it are two broken columns of Docimian marble, very like others in the cemetery of Kaimaz.¹ Each of these two has on one side the name of Saint Thekla, in badly-shaped Byzantine letters. On the other side one of them has the inscription:—

ΑΔΗΑΜ
ΟΛ

the other has the inscription:—

ΔΗΑΜ
ΟΛΑ

The word *Mandalo* written from right to left is very remarkable. It is evident that there was a church of Agia Thekla

¹ Mordtmann saw one of these columns.

at or near Tricomia, but why *Mandalo* was inscribed retrograde on the columns of her church is difficult to explain. Mordtmann's idea cannot be entertained, that *Mandalo* was the Phrygian name of Thekla; it is improbable that the Phrygian language persisted to such a late period.¹

Mordtmann gives two inscriptions, No. 7 and 8 in his order. They are rude graffitti scratched on the rock of the Midas Tomb, and I have not thought it worth while to give them.

The formula of cursing the violator of the tomb was often added on tombs of the Roman period in the native language, probably as being more holy and efficacious with the gods (see M. Schmidt, *Neue Lyk. Stud.* p. 132). I have found several new examples, but shall not give them as yet, as no one is quite perfect, and there is a hope that a decisive instance may be found. The protasis of the formula, however, may, I think, be counted quite certain in reading: *ios ni semun*² *knouman* (or *knuman*?) *i kakun addaket*. *Ni* is once replaced by *ke*, and once omitted. *ios*=*yos*, Skt. *ya-s*, Greek *ὄς*. *Semun* (also occurring *semon* and *simun*) perhaps accus. sing. neut. of a stem that appears in Latin *seme-l*, *simi-lis*, Greek *ἄμα*, etc.: it is used in Phrygian as a demonstrative. *knuman* may probably mean 'tomb': perhaps cp. *sikeneman* in No. 2. *addaket* has already been treated. *ke* may mean 'and': it occurs after a sentence of Greek: or,³ *ni* and *ke* may correspond to *ἄν* and *κέν*. *kakun* may possibly be the Greek *κακόν*: or *ikakun* may be a single word.

¹ The Lydian language had disappeared in Lydia before the time of Strabo, though still used in the remote district of Cibyra (p. 631).

² Rendered in Greek letters of course *σίμων*.

³ As Prof. Sayce suggested.

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ART. IV.—*The Tattva-muktavāli of Gauda-pūrṇānanda-chakravartin.* Edited and Translated by Prof. E. B. COWELL.

THE following poem was written by a native of Bengal, named Pūrṇānanda Chakravartin. Nothing is known as to his date; if the work were identical with the poem of the same name mentioned in the account of the Rāmānuja system in Mādhava's Sarvadarśanasamgraha, it would be, of course, older than the fourteenth century, but this is very uncertain; I should be inclined to assign it to a later date. The chief interest of the poem consists in its being a vigorous attack on the Vedānta system by a follower of the Pūrṇaprajña school, which was founded by Madhva (or Ānandatīrtha) in the thirteenth century in the South of India. Some account of his system (which in many respects agrees with that of Rāmānuja) is given in Wilson's "Hindu Sects;"¹ but the fullest account is to be found in the fifth chapter of the Sarvadarśanasamgraha. Both the Rāmānujas and the Pūrṇaprajñas hold in opposition to the Vedānta² that individual souls are distinct from Brahman; but they differ as to the sense in which they are thus distinct. The former

¹ Works, vol. i. pp. 139-150. See also Prof. Monier Williams, J.R.A.S. Vol. XIV. n.s. p. 304.

² As the different systems are arranged in the Sarva D. S. according to their respective relation to the Vedānta, we can easily understand why Mādhava there places these two systems so low down in the scale, and only just above the atheistic schools of the Chārvākas, Buddhists, and Jains.

maintain that "unity" and "plurality" are equally true from different points of view; the latter hold that the relation between the individual soul and Brahman is that of a master and a servant, and consequently that they are absolutely separate. It need not surprise us, therefore, to see that, although Rāmānuja is praised in the fifty-third śloka of this poem as "the foremost of the learned," some of his tenets are attacked in the eightieth.

The Sanskrit text of this poem was published in the Benares Paṇḍit for Sept. 1871, by Paṇḍit Vechârāma Śarman. An edition, with a Bengali translation, was also published some years ago in Calcutta, by Jagadānanda Goswāmin;¹ but the text is so full of false readings of every kind, and the translation in consequence goes so often astray, that I have not found much help from it. I have collated the text in the Benares Paṇḍit (A.) with a MS. (B.) sent to me by my friend, Paṇḍit Maheśachandra Nyāyaratna, the Principal of the Calcutta Sanskrit College. He has also sent me the readings in certain passages from two MSS. in the Calcutta Sanskrit College Library (C.D.); and I have to thank him for his help in explaining some obscure allusions.

The poem itself seems to me an interesting contribution to the history of Hindu philosophical controversy,² and so I have subjoined a literal English translation. I would venture to remind my readers of the words of the manager in the prologue of the Mālavikāgnimitra, "Every old poem is not good because it is old, nor is every modern poem to be blamed simply because it is modern."

¹ No date is given.

² Dr. Banerjea has quoted and translated several stanzas in his 'Dialogues on Hindu Philosophy.'

॥ अथ तत्त्वमुक्तावली ॥

अनुगतजनपालः क्रूरभूपालकाल-
 स्तरुणतरतमालश्यामलो^१ नन्दवालः ।
 बज्रकिरणकरालः सर्वशक्त्या विशालः^२
 स जयति धृतमालश्चन्द्रकोझासिभालः ॥ १ ॥
 पौराणिकोऽयं स्वमतानुसारी
 प्रातः पुराणं पठति प्रकामम् ।
 शृणोति भक्तः प्रणिधानपूर्वं
 ग्रन्थार्थतात्पर्यनिविष्टचेताः ॥ २ ॥
 जीवात्मनोरैक्यमतं विहाय
 भेदं तयोः स्थापयति स युक्त्या ।
 श्रुतिं स्मृतिं तत्र बज्र प्रमाणं
 छत्वानुमानं बज्रधा तनोति ॥ ३ ॥
 जीवोऽयं ब्रह्मणो भिन्नः परिच्छिन्नो यतः सदा^३ ।
 इत्यादिवहवो ज्ञेया अनुमानेषु हेतवः ॥ ४ ॥
 ननु घटपटयोरैक्यं घटेत वक्तुं प्रमेयत्वात् ।
 अनयोर्न हि नहि तद्वद्यस्माद्ब्रह्माप्रमेयमेव स्यात् ॥ ५ ॥
 साक्षात् तत्त्वमसीति वेदविषये^४ वाक्यं तु यद्विद्यते
 तस्यार्थं कुरुते स्वकीयमतविज्ञेदे^५ र्पयित्वा^६ मतिम् ।
 तच्छब्दोऽव्ययमेव भेदक इह त्वं त्वत्^७ भेदो यतः
 षष्ठी लोपमिता त्वमेव न हि तद्वाक्यार्थ एतादृशः ॥ ६ ॥
 सर्वज्ञः सर्वदर्शी चिभुवनमखिलं त्वं तु यस्मोदरान्तः
 सर्वेषां सृष्टिरक्षालयमपि कुरुते भूविभङ्गेन सद्यः ।
 अज्ञः सपिण्डदर्शी त्वमसि स भगवान् सर्वलोकैकसाक्षी
 नानात्वं ते स एको जडमलिनतरस्त्वं हि नैवंविधः सः ॥ ७ ॥

^१ -मालः श्यामलो B.

^२ बज्रकिरणविशालः सर्वशक्तिप्रवालः B.

^३ यतस्तदा B.

^४ -विषयं A.

^५ भेदेर्मथित्वा A.

^६ त्वं तत्र A.

ब्रह्माहमस्मीति यदस्ति वाक्यं
 ज्ञेया त्वयार्थप्रथमैव तत्र ।
 दृष्टान्तवाक्ये कथमन्यथा चेत्
 षष्ठी तु वहेरिव विस्फुलिङ्गाः ॥ ८ ॥
 अग्निं माणवकं वदन्ति कवयः^१ पूर्णेन्दुबिम्बं मुखं
 नीलिन्दीवरमीक्षणं कुचतटीं मेरुं करं पल्लवम् ।
 आहार्यभ्रमतो भवेत् पुनरियं भेदेऽप्यभेदा मतिः
 कर्तव्या गतिरीदृशी खलु तथा ब्रह्माहमस्मि श्रुतेः ॥ ९ ॥
 यथा समुद्रे बहवस्तरङ्गा-
 स्तथा वयं ब्रह्मणि भूरिजीवाः ।
 भवेत् तरङ्गो न कदाचिदम्बि-
 स्त्वं ब्रह्म कस्माद्भवितासि जीवः ॥ १० ॥
 ज्ञानं चाज्ञानमेव द्वयमपि विदितं सर्वशास्त्रान्तराले
 धर्माधर्मौ च विद्या तदनु तदितरा पृष्ठलया विभाति ।
 एवं सर्वत्र युग्मं भवति खलु तथा ब्रह्मजीवौ प्रसिद्धौ
 कस्मादैक्यं तयोः स्यादकपटमनसा हन्त सन्तो वदन्तु ॥ ११ ॥
 तस्य श्रीपरमेश्वरस्य निखिलाधारस्य मायाविनो
 जीव त्वं प्रतिबिम्ब एष भगवान् बिम्बः स्वयं राजते ।
 एकः खे खलु चन्द्रमा बज्रविधस्तोयादिके दृश्यते
 तद्विम्बप्रतिबिम्बयोरिव भिदा जीव त्वया ब्रह्मणः ॥ १२ ॥
 अग्रमेयमवितर्कमनीहं
 ब्रह्म तत् कथितमागमवाक्यैः ।
 गोचरोऽसि वचसो मनसस्त्वं
 ब्रह्मणा तव^२ कथं भवितैक्यम् ॥ १३ ॥
 मायावादमतान्धकारमुषितप्रज्ञोऽसि यस्मादहं
 ब्रह्मास्मीति वचो मुञ्जर्वदसि रे जीव त्वमुन्मत्तवत् ।
 ऐश्वर्यं तव कुत्र कुत्र विभुता सर्वज्ञता कुत्र ते
 तन्मेरोरिव सर्षपेण हि भिदा जीव त्वया ब्रह्मणः ॥ १४ ॥

^१ मुनयः B.^२ ब्रह्मणस्तव B.

परिच्छिन्नो जीवस्त्वमसि स खलु व्यापकतम-
 स्त्वमेकत्र स्थाता भवसि स हि सर्वत्र सततम् ।
 सुखी दुःखी त्वं रे क्षणिक स सुखी सर्वसमये
 कथं सोऽहं वाक्यं वदसि वत लज्जां न कुरुषे ॥ १५ ॥
 काचः काचो मणिरपि मणिः शुक्तिरेवास्ति शुक्ती
 रूप्यं रूप्यं न भवति कदा व्यत्ययज्ञानमेषाम्^१ ।
 अन्येषां तु स्फुरति यदिदं ज्ञानमन्यत्र तत् तु
 भान्त्या जीवः प्रवदति तथा तत्त्वमस्यादि वाक्यम् ॥ १६ ॥
 तच्छब्दार्थः प्रकटपरमानन्दपूर्णामृताब्धि-
 स्त्वंशब्दार्थो भवभयभरव्यग्रचित्तोऽतिदुःखी ।
 तस्मादैक्यं न भवति तयोर्भिन्नयोर्वस्तुगत्या
 भेदः सत्यं सकलजगतां^२ त्वं हि दासस्तदीयः ॥ १७ ॥
 शब्दैर्ब्रह्मणि वक्तव्ये व्यापारो नाभिधा भवेत् ।
 शक्तिर्नास्ति यतस्तेषां लक्षणा तेन कल्प्यते ॥ १८ ॥
 एवं चेन्नक्षणा कस्माच्छक्यसंबन्धजा यतः ।
 संबन्धस्तत्र केन स्यादसङ्गाद्वैतवस्तुनि ॥ १९ ॥
 मुख्यार्थवाधे खलु तेन योगे
 प्रयोजनाद्वा खलु रूढितो^३ वा ।
 वृत्त्या यथान्यो ननु^४ लक्ष्यतेऽर्थः
 सा लक्षणाऽस्यास्त्रितयं^५ च हेतुः ॥ २० ॥
 अभिधा नास्ति चेत् कस्मान्नक्षणा तत्र जायते ।
 आदावेकत्र बाधः स्यात् पश्चादन्यत्र लक्षणा ॥ २१ ॥
 नाङ्गीकृताभिधा यस्य लक्षणा तस्य नो भवेत् ।
 नास्ति ग्रामः कुतः सीमा न पुत्रो जनकं विना ॥ २२ ॥
 कुन्ताः खड्गा धनुर्बाणाः प्रविशन्त्यत्र लक्षणा ।
 स्वसिद्धये पराक्षेपो यन्नो गतिरचेतने ॥ २३ ॥

^१ व्यत्ययं B. (but not C.). ^२ So A. C.; भेदः सेव्यः स खलु जगतां B.

^३ वाप्यथ B.

^४ खलु B.

^५ लक्षणा स्यात् त्रितयं B.

गङ्गायां घोष इत्यत्र परार्थे स्वसमर्पणम् ।
 घोषाधिकरणं यस्मान्न गङ्गा जलरूपिणी ॥ २४ ॥
 ताद्रूप्यमायुर्धृतमत्र जातं
 यदायुरेवेदमभेदबुद्धिः ।
 वाक्यार्थबोधो भवितोपचारा-
 दैक्यं तु नो वास्तवमेव जातम् ॥ २५ ॥
 अद्वैतं स्थापितं यत्नाल्लक्षणा समुपाश्रिता ।
 शक्यो लक्ष्यस्य संबन्धस्ततस्त्रितयमागतम् ॥ २६ ॥
 नाभिधा समयाभावाद्धैत्वभावान्न लक्षणा ।
 मायावादिमते ब्रह्म बोध्यते केन हेतुना ॥ २७ ॥
 वेदे तु मुख्यया^१ वृत्त्या जगत्कर्तेति कथ्यते ।
 सकर्तृकत्वमेतेषामनुमानाच्च सिध्यति ॥ २८ ॥
 वेदाः प्रमाणं स्मृतयः प्रमाणं
 प्रमेय^२ आस्ते खलु तत्र तत्र ।
 वेदैश्च सर्वैरहमेव वेद्यो
 वेदस्ततस्तद्विषयीकरोति ॥ २९ ॥
 अत्यन्तासत्यपि^३ ज्ञानमर्थे शब्दः करोति हि ।
 किमुत ब्रह्मणीशाने स चराचरकर्तरि ॥ ३० ॥
 वाचो निवृत्तिर्मनसा सहेति
 तस्यायमर्थः क्रियते शृणुध्वम् ।
 हृदा समं तद्विषयीकरोति
 ततो निवृत्ताऽनवगाह्यभावात् ॥ ३१ ॥
 अगोचरं मनोवाचामिति शब्दात् प्रतीयते ।
 शब्दस्यैव ततो वाच्यं नच शब्दः स्वलज्जतिः ॥ ३२ ॥
 शब्दब्रह्मणि निष्णातः परं ब्रह्माधिगच्छति ।
 इत्यादि मुनिवाक्यं^४ तु भ्रान्तप्रलपितं न हि ॥ ३३ ॥
 सच्चिदानन्दशब्दानां संकेतो ब्रह्मणि ध्रुवम् ।
 यथा घटपटादीनां तत्तदर्थीवलोकनम्^५ ॥ ३४ ॥

^१ तं हेतुं मुख्यया B.

^२ प्रमेयम् B.

^३ सत्यं त्वसत्यपि B.

^४ श्रुति° B.

^५ -ने B.

प्रयोज्यप्रेरकोक्तिभ्यां संकेतग्रह ईरितः ।
 आवापोद्वापतः^१ पञ्चाद् व्युत्पन्नो बालको भवेत् ॥ ३५ ॥
 श्रवणाद्गुरुवाक्यानां शास्त्राभ्यासात् पुनः पुनः ।
 ब्रह्मादिपदसंकेतः शिष्यस्योत्पद्यते ध्रुवम् ॥ ३६ ॥
 इयं सकर्तृका नूनं चितिर्भवितुमर्हति ।
 कार्यत्वं तच्च हेतुः स्याद् घटादौ दृश्यते यथा ॥ ३७ ॥
 कर्तृत्वसिद्धौ परमेश्वरस्य
 शरीरसिद्धिः स्वत एव जाता ।
 घटादिकार्येष्वपि दृश्यते स
 कर्ता शरीरी खलु नाशरीरी ॥ ३८ ॥
 यद्यस्ति देहः परमेश्वरस्य
 तदास्मदादिप्रतिमो हि स स्यात् ।
 व्यापारवत्त्वे^२ सति कर्तृकत्वं
 कंचिद्विशेषं न विप्रोक्तयामि ॥ ३९ ॥
 तत् कथ्यते भगवतो महदन्तरं यत्
 कुहालदाचहलपाणिभृतां^३ जनानाम् ।
 एते षडूर्मिविवशाः श्रमभारखिन्ना^४
 भूभङ्गमात्रविषये स करोति सर्वम् ॥ ४० ॥
 अकर्तृमन्यथा कर्तुं कर्तुं प्रभवति प्रभुः ।
 अतस्तयोर्विजानीयादन्तरं महदन्तरम् ॥ ४१ ॥
 यद्यस्ति भोगायतनं शरीरं
 लोके प्रसिद्धं तदपि प्रकामम् ।
 लक्ष्मीपतित्वाद्भगवच्छरीरे
 न्यूनं न किंचिद् घटते समयम् ॥ ४२ ॥
 यद्यच्छरीरं तद्दृष्टयुक्त-
 मेतादृशी व्याप्तिररीकृता चेत् ।

^१ आपातोद्धारतः A.^२ -सत्त्वे A.^३ कुहालदातृ- A.^४ श्रम- B.

तदास्मदादिप्रबलैरदृष्टैः
 संप्रेरितो यः खलु सर्वकर्ता ॥ ४३ ॥
 यद्यच्छरीरं तदनित्यमेव
 व्याप्तिस्ततोऽपीश्वरनित्यदेहः ।
 सर्वत्र दृष्टा^१ खलु भूरनित्या
 नित्या यथा सा परमाणुरूपा ॥ ४४ ॥
 नादृष्टमेकस्य जनस्य कस्या-
 दन्यत्र लग्नं भवतीति वाच्यम्^२ ।
 यस्माद्भजग्राहशुभाशुभाभ्या-
 मतित्वरावान् खलु चक्रपाणिः ॥ ४५ ॥
 श्रुतं पुरा^३ यज्जगदीश्वरस्य
 नाभ्यम्बुजात्^४ सर्वमिदं बभूव ।
 शरीरसिद्धिस्तत एव जाता
 नाभिः कथं हन्त विना शरीरम् ॥ ४६ ॥
 सर्वेन्द्रियास्वाद्यमतिप्रसन्नं^५
 शरीरमीशस्य हि षड्गुणाढ्यम् ।
 वेदैश्च सर्वैरधिगम्यमानं
 तत्पादशौचोदकमेव गङ्गा ॥ ४७ ॥
 अर्धमवृद्धिः खलु धर्मद्रासो
 यदा यदा कालवशादुपैति ।
 तदा तदा साधुजनस्य रक्षा-
 मसाधुनाशं भगवान् करोति ॥ ४८ ॥
 अवतारावतारित्वादीशो हि द्विविधः स्मृतः ।
 भक्ताभक्तविभेदेन जीवोऽपि भवति द्विधा ॥ ४९ ॥
 तत्रैव केचित् परमेश्वरस्य
 वदन्ति जीवं प्रतिबिम्बमेव ।

^१ दर्शी A.^२ सिद्धम् A.^३ पुराणे B.^४ -म्बुजं B.^५ -प्रसिद्धं B.

मतं तु तेषां घटते न सम्यग्-
 यतो व्यवस्थापयितुं न शक्यम् ॥ ५० ॥
 तथाहि कस्मात् प्रतिबिम्बमासीत्
 तस्यापरिच्छिन्ननिरञ्जनस्य^१ ।
 जडस्य कस्मान्निगमोक्तधर्मा-
 धर्मोत्पत्तितत्सुखदुःखभोगः ॥ ५१ ॥
 प्रतिबिम्बं भवेन्नूनं परिच्छिन्नस्य वस्तुनः ।
 अपरिच्छिन्नता यस्य तस्य तद्भविता कथम् ॥ ५२ ॥
 रामानुजः शिष्टगणाग्रगण्यो
 निनिन्द बिम्बप्रतिबिम्बवादम् ।
 शिष्टैर्गृहीतं न यतो मतं तत्
 तस्माद्भवेत् चारुतरं न नूनम् ॥ ५३ ॥
 तयोरनादिभेदोऽस्ति द्वौ सुपर्णाविति श्रुतेः ।
 सखायाविति निर्देशादिकं तु घटते कथम् ॥ ५४ ॥
 ब्रह्मैवाहं न संसारी ब्रह्मण्यात्मन ईक्षणात् ।
 शोकादिविनिवृत्तिः स्यात् फलं नैक्यं कदाचन ॥ ५५ ॥
 अहमेव खलु ब्रह्म ब्रह्मणः स्वात्मनीक्षणात्^२ ।
 परोक्षविनिवृत्तिः स्यात् फलं नैक्यं कदाचन ॥ ५६ ॥
 एकाग्रबुद्ध्या परिशीलनेन
 ब्रह्मैव स स्यादिति नैव वाच्यम् ।
 किञ्चिद्गुणस्यैव भवेत् प्रवेशो
 यत् कीटभृङ्गादिषु दृष्टमित्यम् ॥ ५७ ॥
 भक्त्या सदा ब्राह्मणपूजनेन
 शूद्रोऽपि न^३ ब्राह्मणतामुपैति ।
 किञ्चिद्गुणस्यैव भवेत् प्रवेशो
 न ब्राह्मणः स्यात् खलु शूद्रजातिः ॥ ५८ ॥

^१ -परात्मनश्च B.

^२ ब्रह्मणस्त्वात्म- A.; ब्रह्मण्यात्मनिरीक्षणात् C.

^३ स A.

श्रीसूत्रकारेण कृतो हि भेदो
 यत् कर्मकर्तृव्यपदेश उक्तः ।
 व्याख्या कृता भाष्यकृता तथैव
 गुहां प्रविष्टाविति भेदवाक्यैः ॥ ५९ ॥
 स्मृतेष्व हेतोरपि भिन्न आत्मा
 नैसर्गिकः सिध्यति भेद एव ।
 न चेत् कथं सेवकसेव्यभावः
 कण्ठोक्तिरेषा खलु भाष्यकर्तुः ॥ ६० ॥
 अहं सुखी क्वापि भवामि दुःखी
 सुखस्वरूपी सततं स आत्मा ।
 एवं हि भेदः कथमेकमेव
 तयोर्द्वयोर्भिन्नपदार्थयोः स्वात् ॥ ६१ ॥
 नित्यं स्वयंज्योतिरनावृतोऽसा-
 वतीव शुद्धो जगदेकसाक्षी ।
 जीवस्तु नैवंविध एव तस्मा-
 दभेदवृत्तोपरि वज्रपातः ॥ ६२ ॥
 जीवात्मनोर्ये प्रवदन्त्यभेदं
 तेषां मते द्वन्द्वसमासबाधः ।
 उदाहृतं वा दृषदादिरूपं
 द्वन्द्वो हि भेदे न कदाप्यभेदे ॥ ६३ ॥
 अभेदे जायते नूनं समासः कर्मधारयः ।
 सामानाधिकरखेन नीलोत्पलमुदाहृतम् ॥ ६४ ॥
 अन्नं ब्रह्मेति वाक्यानि यथा तिष्ठन्ति भूरिशः ।
 तथा ब्रह्माहमस्मीति विज्ञेयोपासनापरा ॥ ६५ ॥
 अभेदो वास्तवो नैव श्रूयते यच्च^१ कुत्रचित् ।
 ज्ञेयं तदखिलं वाक्यं तदैवोपासनापरम् ॥ ६६ ॥
 भेदेऽप्यभेदेऽपि बह्वनि सन्ति
 वाक्यानि नूनं निगमे पुराणे ।

मात्सर्यमुत्सार्य विचार्य तत्त्वं¹
 पथं स्वकीयं प्रवदन्तु धीराः ॥ ६७ ॥
 भ्रान्त प्रतारितमतेन नु जीव रे त्वं
 ब्रह्माहमस्मि वचनं कुरु दूरमास्थात् ।
 तत् त्वं कथं भवसि दैवहृत प्रकामं
 संसारदुस्तरमहार्णवमध्यमग्नः ॥ ६८ ॥
 लक्ष्मीकान्तः प्रकटपरमानन्दपूर्णामृताब्धिः
 सेव्या रुद्रप्रभृतिविवर्धैर्यस्य पादाम्बु गङ्गा ।
 सृष्टेः पूर्वं सृजति निखिलं भूविभङ्गेन सद्यः
 सोऽहं कस्माद्वदसि वत रे जीव रङ्गो न राजा ॥ ६९ ॥
 येन व्याप्तमखण्डमण्डलमिदं ब्रह्माण्डभाण्डादिकं
 ररे मन्दमते त्वया कथमहो सोऽहं वचः कथ्यते ।
 पश्य त्वं निजवैभवं स्वहृदये कृत्वा मतिं निश्चलां
 व्यूहः किं मशकोदरे प्रविशति प्रोहामदिग्दन्तिनाम् ॥ ७० ॥
 कस्य त्वं कुत आगतः कथमरे संसारबन्धक्रम-²
 स्तत्त्वं तत् परिचिन्तय स्वहृदये भ्रान्तस्य मार्गं त्वज ।
 सोऽहं मा वद³ सेव्यसेवकतया नित्यं भज श्रीहरिं
 तेन स्यात् तव सन्नतिर्ध्रुवमधःपातो भवेदन्यथा ॥ ७१ ॥
 नानाद्योनिषु गर्भवासविषये दुःखं महत् प्राप्यते
 स्वर्गे वा नरके पुनः पुनरहो जीव त्वया भ्रम्यते ।
 सोऽहं ज्ञानमिदं भ्रमस्तव भज त्वं पादपद्मं हरे-
 स्तस्य त्वं⁴ किल सेवकः स भगवांस्त्रैलोक्यनाथो यतः ॥ ७२ ॥
 अद्वैताख्यमतं विहाय झटिति द्वैते प्रवृत्तो भव
 स्वान्ते संप्रति विद्यते यदि हरावेकान्तभक्तिस्तव ।
 वाक्यं नारदपञ्चरात्रविषयेऽप्यन्यत्र सर्वत्र च
 ज्ञात्वा वैष्णवतन्त्रसूक्तमखिलं निर्णीयतां यद्वितम् ॥ ७३ ॥

¹ तथ्यं B.² क्षम- B.³ भावद A.⁴ तस्याहं B.

केनोपदिष्टोऽसि महाकुबुद्धिना
 ब्रह्माहमस्मीति यतस्त्वयोच्यते ।
 रुद्रादिदेवैः सततं यदर्च्यते
 तत् त्वं कथं मूढ विचार्य दृश्यताम्¹ ॥ ७४ ॥
 शक्ता ज्ञातुमहो न भेदमनयोर्जीवात्मनोर्दुर्जना
 मायावाददुराग्रहग्रसितधोस्तत्रैव हेतुर्महान् ।
 पित्ताधिक्यवतां यथैव रसना खण्डस्थितां माधुरीं
 शङ्खस्थां किल काचकामलवतां नेत्रे यथा शुभ्रताम् ॥ ७५ ॥
 यस्मैव चैतन्यलवेन जीव
 जातोऽसि चैतन्यवतां वरेण्यः ।
 मा ब्रूहि सोऽहं शठ कः कृतघ्ना-
 दन्यः पदं वाञ्छति हन्त भर्तुः ॥ ७६ ॥
 न्यस्तः श्रीपरमेश्वरेण कृपया चैतन्यलेशस्त्वयि
 त्वं तस्मात् परमेश्वरः स्वयमहो नायाति वक्तुं शठ ।
 लब्धा कश्चन दुर्जनः खलु यथा हस्त्यश्वपादातकं
 भूपादेव तदीयराज्यपदवीं चक्रे अहीतुं मनः ॥ ७७ ॥
 माया यस्य वशं गता बलवती त्रैलोक्यसंमोहिनी²
 विज्ञेयः प्रभुरीश्वरः स भगवानानन्दसच्चिद्वनः ।
 यस्तस्या वशमागतः खलु नसि प्रोतोद्वकल्पः सदा
 ज्ञातव्यः स हि जीव इत्यमनयोरस्त्येव भेदो महान् ॥ ७८ ॥
 ज्ञात्वा सांख्यकणादगौतममतं पातञ्जलीयं मतं
 मीमांसामतभट्टभास्करमतं षड्दर्शनाभ्यन्तरे ।
 सिद्धान्तं कथयन्तु हन्त सुधियो जीवात्मनोर्वस्तुतः
 किं भेदोऽस्ति किमेकता किमथवाभेदो³ऽप्यभेदस्तयोः ॥ ७९ ॥
 शास्त्रेषु पञ्चसु मया खलु तत्र तत्र
 जीवात्मनोरतितरां श्रुत एव भेदः ।

¹ B. om. śl. 74.² -मोहनी B.³ भेदो B.

वेदान्तशास्त्रभणितं^१ किमिदं शृणोमि
 भेदं ततोऽन्यदुभयं^२ त्रिविधं^३ विचित्रम् ॥ ८० ॥
 स्वातन्त्र्ययोगाद्भवति स्वतन्त्रो
 विश्वस्य कर्ता जगदीश्वरो यः ।
 जीवः पराधीनतया प्रसिद्धः
 कस्मात् तयोरेक्यमहो वदन्ति ॥ ८१ ॥
 नाना रसा मधुनि भिन्नतया तद्वृणां
 सन्ति त्रिदोषहरणं कथमन्यथा स्यात् ।
 जीवास्तथा भगवति प्रलये विलीना
 नैक्यं गताः खलु यतः पृथगेव सृष्टौ^४ ॥ ८२ ॥
 नदीसमुद्रयोर्भेदः शुद्धोदलवणोदयोः ।
 तथा जीवेश्वरौ भिन्नौ विलक्षणगुणान्वितौ ॥ ८३ ॥
 नद्यः समुद्रे मिलिताः समन्ता-
 न्नैक्यं गता भिन्नतया न भान्ति ।
^५ चारोदशुद्धोदकयोर्विभेदा-
 दास्ते तयोर्वास्तव एव भेदः ॥ ८४ ॥
 दुग्धे तोयं मिलितमपरे नैव पश्यन्ति भेदं
 हंसस्तावत् सपदि कुरुते चीरनीरस्य भेदम् ।
 एवं जीवा लयमपि परे^६ ब्रह्मणोऽपि विलीना
 भक्ता भेदं विदधति गुरोर्वाक्यमासाद्य सद्यः ॥ ८५ ॥
 दुग्धं दुग्धे जलमपि जले मिश्रितं सर्वथा त-
 न्नैकीभूतं निचयतमुभयोर्मानमस्त्येव यस्मात् ।
 एवं जीवाः परमपुरुषे ध्यानयोगाद्विलीना
 नैक्यं प्राप्ता विमलमतयः सन्त एवं वदन्ति ॥ ८६ ॥

^१ विषये B.^२ अन्यमुभयं A.^३ न हि तद्विचित्रं B.^४ सृष्टाः B.^५ चारोद- A.B.C., but चारोद- in one Calcutta MS. D. and in the Calcutta edition.^६ अधिपर- A.

केचिद्वादवलाः कुतर्कजलधौ मग्नाः कुमार्गे रता
 मिथ्याजल्पनकल्पनाशतयुता भ्रान्ता जगद्भ्रामकाः ।
 ब्रह्मैवाहमिदं चराचरमपि ब्रह्मैव दृष्ट्वाखिलं
 प्राङ्गर्थं तदसन्मनोरथ इति व्याख्यातमत्र स्फुटम् ॥ ८७ ॥
 सकलमिदमहं च ब्रह्मभूतं यदि स्या-
 महह खलु तदा स्यादावयोरैक्यमेव ।
 तव धनसुतदारा मामकीनास्तदा स्तु-
 र्मम च तव भवेयुर्नावयोरस्ति भेदः ॥ ८८ ॥
 विधिर्निषेधश्च तदा कथं स्या-
 दैक्यं यतो नास्ति च वर्णभेदः ।
 निर्णीतमद्वैतमतं तथा^१ चे-
 द्वौद्वैतदा को विहितोऽपराधः ॥ ८९ ॥
 भूतेन्द्रियान्तःकरणात् प्रधाना-
 ज्जीवाभिधानादपि भिन्न आत्मा ।
 इतीरितो भागवति तृतीये
 स्कन्धे पुरस्तात् कपिलेन मातुः ॥ ९० ॥
 ये ध्यायन्ति गुरुपदिष्टपदवीमालम्ब्य शून्यालये
 शून्यान्तःकरणेन शून्यमखिलं शून्यं च तद्वैतम् ।
 किं वाच्यं बद्ध तत्र शून्यविषये नो वाक्प्रवृत्तिर्यत-
 स्तेषां शून्यधियां भवेत् फलमपि प्रायेण शून्यं खलु ॥ ९१ ॥
 शून्यवादस्य निन्दायां भारते व्यासभाषितम् ।
 तेषां तमःशरीराणां तम एव परायणम् ॥ ९२ ॥
 कपिलेन यदुद्दिष्टं सूक्ष्मरश्मिपुरः^२ पुरा ।
 तदेव भारते पञ्चाध्यासेन समुदाहृतम् ॥ ९३ ॥
 नैर्गुण्यवादो गुणसागरेऽपि
 तेषामहो गडुरिकाप्रवाहः ।
 सूत्रस्य भाष्यं पृथगेव कृत्वा
 प्रतारयन्ति स्वमतप्रपन्नान्^३ ॥ ९४ ॥

^१ त्वया B.^२ शून्यरश्मि- B.^३ स्वमत प्रयत्नात् B.

ऐश्वर्यकर्तृत्वमुखाः समया
 नित्या गुणास्ते परमेश्वरस्य ।
 अतो गुणी^१ निर्गुण एव कस्मान्-
 नैर्गुण्यवादस्तु विवाद एव ॥ ९५ ॥
 ज्ञानेच्छाकृतिमानयं स भगवान् निर्धर्मकत्वं कुतो
 वेदैर्वा प्रतिपाद्यते कथमहो निर्धर्मकश्चेत् तदा ।
 नैर्गुण्यं गुणसागरेऽपि गदितुं^२ तूष्णीं कथं शक्यते
 स्वीयान्तःकरणे विचार्य भवता निर्णीयतां यद्भवत् ॥ ९६ ॥
 प्रतीयते क्वापि न वेदलोके
 निर्धर्मकं वस्तु खपुष्पतुल्यम् ।
 प्रतीतिरास्ति यदि तस्य वेदा-
 द्वेदाः प्रमाणं खलु नो तदा स्यात् ॥ ९७ ॥
 प्रक्षरो यजमानो वै यथाच यज्ञसाधनम् ।
 धर्मबाधे तथात्रापि निर्धर्मस्तु प्रतीयते ॥ ९८ ॥
 न धर्मधर्मिभावस्तु कुत्रापि भवतादृतः ।
 बाधे कल्पितधर्मस्याबाधः सर्वत्र जायते ॥ ९९ ॥
 निर्धर्मब्रह्मबोधे नो सत्यादेरनुकूलता ।
 स सत्यधर्म इत्यादौ प्रतिकूलत्वमागतम् ॥ १०० ॥
 किंच कुत्रापि धर्मत्वे^३ सिद्धे सिध्यति कल्पना ।
 शुक्ती रजतमित्यत्र प्रसिद्धं रजतं भवेत् ॥ १०१ ॥
 आत्मोपादानकं विश्वमविद्याकल्पितं भवेत् ।
 केचिद्विवर्तमिच्छन्ति तन्न हृद्यतरं^४ मम ॥ १०२ ॥
 मिथ्याभूतमिदं विश्वमिति वक्तुं न शक्यते ।
 नित्यक्रीडाप्रवृत्तस्य क्रीडाभाण्डं यतो हरिः ॥ १०३ ॥
 न स्वप्नतुल्यो भवति प्रपञ्चः
 स्वप्नेऽस्ति निद्रा खलु भूरिदोषः^५ ।

^१ विभुः B.^२ निगदति B.^३ धर्मित्वे A.^४ तत्र हृद्यान्तरं A. ; तन्न हृद्यं मतं C.^५ Sic A.B.C.D. ; (Qu. भूरिदोषा).

भुक्तं च^१ पीतं नहि तत्र तृष्ट्यै
 जाग्रद्दृशायां कुरुते च^२ तृप्तिम् ॥ १०४ ॥
 यद्येव^३ मिथ्या परिदृश्यमान-
 मर्थक्रियाकारि तदा कथं स्यात् ।
 घटेन तोयाहरणं तु जातं
 मिथ्या न तन्नश्वरमेव^४ नूनम् ॥ १०५ ॥
 मिथ्याभूतं यदिदमखिलं सर्वमेतद्विरुद्धं
 प्रायश्चित्तप्रभृति कथितं धर्मशास्त्रे किमर्थम् ।
 एते चौराः किमिति धरणीनायकेनापि दण्ड्या
 मायावादी सशपथमिदं वक्ति सर्वं तु मिथ्या ॥ १०६ ॥
 स्रग्भोगिभोगोपम एव वक्तुं
 त्वया प्रपञ्चः खलु शक्यते नो ।
 विशेषदृष्ट्या ननु^५ नात्र बाधः
 प्रवाहनित्यः सततं विभाति ॥ १०७ ॥
 अयं प्रपञ्चः खलु सत्यभूतो
 मिथ्या न च श्रीपतिसंग्रहेण ।
 शुद्धस्त्वमेतस्य निवेदनेन
 स्वर्णं यथा राजति धातुजातम् ॥ १०८ ॥
 वैराग्यभोगावपि भक्तिमध्ये
 स्थितावुदासीनतया खलु द्वौ ।
 महाप्रसादग्रहणं तु नित्यं
 भोगः कदाचिन्न हि भक्तिरेव ॥ १०९ ॥
 अत्यन्ताभिनिवेशेन भोगी तु^६ विषयी भवेत् ।
 विरक्तसदभावे तु स्वादेवं परमार्थता ॥ ११० ॥

^१ न A.^२ न A.^३ यद्येन A.^४ वै नश्वरमेव B.^५ न तु B.^६ भोगीति A.

सत्सङ्गेन पुनः पुनर्भगवतो लीलाकथाकर्णना-
 १ च्छुद्धप्रेमविशुद्धभक्तिलहरी चेतःसरस्यामभूत् ।
 अद्वैतं तु मतं विहाय सहसा द्वैते प्रवृत्ता वयं
 लक्ष्मीकान्तपदारविन्दयुगलं स्वीरं भजामो वयम् ॥ १११ ॥
 अस्ति लोकविषये व्यवहारो
 राजकीयपुरुषः खलु राजा ।
 ब्रह्मजीवविषयेऽपि तथैव
 श्रूयते विविधमागमवाक्यम् ॥ ११२ ॥
 यस्मिन्नुत्पत्तिमापत्^२ विभुवनसहितं चन्द्रसूर्यादि सर्वं
 यस्मिन्नाशान्तमास्ते व्रजति च विलयं स्वस्वकालेन यस्मिन् ।
 वेदैर्ब्रह्मापि^३ वक्तुं प्रभवति न कदा यं गुणातीतमीशं
 सोऽहं वाक्यं तु कस्मादुपदिशसि गुरो मन्दभाग्याय मह्यम् ॥ ११३ ॥
 सूक्ष्मसूक्ष्मसमस्तजन्तुसहितं ब्रह्माण्डभाण्डादिकं
 पञ्चोदुम्बरमध्यमपमशकश्रेणीव यस्मिन्नभूत् ।
 यस्मिन्नाप्रलयं च तिष्ठति लयं प्राप्नोति यस्मिन्नहो
 सोऽहं वाक्यमिदं मदीयवदनादायाति कस्माद्गुरो ॥ ११४ ॥
 यस्य श्रीपरमेश्वरस्य कृपया मूकोऽपि वाचालतां
 पङ्कः पर्वतलङ्घने किल महासामर्थ्यमेति चणात् ।
 जन्मान्धोऽप्यरविन्दसुन्दरदृशोर्द्वन्द्वं किमन्यत् परं
 वन्दे नन्दकिशोरमिन्दुवदनं तं भक्तचिन्तामणिम् ॥ ११५ ॥
 कालोऽनन्तः प्रशस्तोर्वी विष्णुभक्तकुलं^४ महत् ।
 मदगुणग्राहकः^५ कश्चित् कदाचिज्जविता भुवि ॥ ११६ ॥
 श्रीनारायणभट्टवर्यसविधे तद्भक्तिभूषाभिधं
 साङ्गोपाङ्गमधीत्य भक्तकृपया ज्ञात्वा रहस्यव्रजम् ।
 भक्त्याधारतया यथामति शतश्लोकी निबद्धा मया
 जीवब्रह्मविभेदतत्त्वविषया^६ सद्वाक्यमुक्तावली ॥ ११७ ॥

१-दुत्यप्रेम- A.

२-आयात् B.

३-वेदे B.

४-भक्तिकुलं A.

५-मदनुग्राहकः B.

६-विषये B

वयमिह यदि दुष्टं प्रोक्तवन्तः प्रमादात्
 तदखिलमपि बुद्ध्या¹ शोधयन्तु प्रवीणाः ।
 खलति खलु कदाचिद् गच्छतो² हन्त पादः
 क्वचिदपि वत वक्ता वक्ति मोहादिरुद्धम् ॥ ११८ ॥
 गुणगणगुम्फितकाये मृगयति दोषं खलो न जातु गुणम् ।
 मणिमयमन्दिरमध्ये पश्यति पिपीलिका छिद्रम् ॥ ११९ ॥
 ये मत्सरा हतधियो³ ननु ते तु दोषं
 पश्यन्तु नाम गणयन्तु⁴ गुणं गुणज्ञाः ।
 आलोकयन्ति किल ये च⁵ गुणं न दोषं
 ते साधवः परममी परितोषयन्ति ॥ १२० ॥
 पूर्णानन्दकवेः कृतिर्भगवतो जीवस्य भेदाश्रिता
 तत्त्वातत्त्वविवेकवाक्यसुभगा श्रीविष्णुभक्तिर्मता ।
 साध्वी⁶ मुग्धपदप्रबन्धमधुरा तत् पद्यातां श्रूयतां
 भो भो भागवतोत्तमा मनसि चेद्भक्तिर्भवेद्वाञ्छिता ॥ १२१ ॥
 नानालंकारमुक्ता⁷ मृदुमधुरपदन्याससंवर्धितश्रीः
 पीयूषप्रख्यवाक्यप्रकरसुललिता चारुसर्वोज्ज्वलाङ्गी ।
 विज्ञानन्दैकभूमिर्गुणगणसुभगा⁸ दोषलेशेन हीना
 भक्तानां कण्ठदेशे निवसतु सततं तत्त्वमुक्तावलीयम् ॥ १२२ ॥
 इति श्रीगौडपूर्णानन्दचक्रवर्तिवरचिता तत्त्वमुक्तावली माया-
 वादशतदूषणी संपूर्णा ॥

¹ बुद्ध्या B.² कदाचित् पद्यतो A.³ हतधियो B.⁴ न गुणं तु A.⁵ ये न A.⁶ साध्वी B. C.⁷ So A.C. ; but -युक्ता B. The reading *muktā* seems more likely to be the original and *yuktā* the later alteration.⁸ विज्ञानस्यैव B.

TRANSLATION.

1. Victorious is the garland-wearing foster-son of Nanda,—the protector of his devotees,—the destroyer of the cruel king,—dark-bluelike the delicate tamâla blossoms,—formidable with his many outspread rays,—mighty with all his attendant powers,¹—and having his forehead radiant like the moon.

2. This follower of the Purâṇas, who holds by his own belief, reads to his heart's content the Purâṇa in the morning, and he listens devotedly with profound meditation, his whole mind intent on the meaning of the book.

3. Having abandoned the doctrine of the oneness of the individual and the Supreme Soul, he establishes by argument their mutual difference; having used Śruti and Smṛiti as a manifold proof, he employs Inference in many ways in the controversy.

4. This individual soul must be different from Brahman because it is always circumscribed,—many are the similar arguments which are to be acknowledged in the course of our reasonings.

5. "Might we not say that a jar and a web could be called identical because both are cognizable?"² But we cannot say so in regard to these two things in question, for Brahman alone is that which cannot be cognized.

6. The sentence "Thou art That" (*tat tvam asi*) which is understood in its primary meaning as referring to the object of the Veda,³—the author thus explains its meaning, as he knows his own doctrine, and has fixed his mind on the system of Duality; since the word 'that' (*tat*) is here indeclinable and implies a difference, and the word 'thou' (*tvam*) means that which is to be differentiated, the sign of the genitive case has been elided;⁴ "thou only," such is not the meaning of the sentence.⁵

¹ The Bengali translation explains these as the internal powers (*antaraṅgâ*) Hladini, etc., and the external (*bahiraṅgâ*) Prahvâ, etc.

² There is a favourite Naiyâyik example of a *kevalânvayi* middle term, "a jar is nameable because it is cognizable as a web is."

³ Or *vedarishaye* may perhaps simply mean *vede*, cf. §. 112.

⁴ The author here explains the sentence *tat tvam asi*, as really meaning *tasya tvam asi* "thou art Its."

⁵ In "Thou art that," 'thou' and 'that' would refer to the same subject (*sâmânâdhikarण्या*).

7. He is all-knowing, all-seeing, Himself the three worlds, in whose belly thou art thyself contained,—He causes at once by a movement of the brow the creation, preservation, and absorption of all beings! Thou art ignorant, and only seest relatively, He is the adorable, the one Witness of all worlds; thou art changing, He is One; thou art all dull and stained, not such is He.

8. As for the text "I am Brahman," you must take the nominative case as only used there for the genitive by the licence of an inspired speaker. How, if it were otherwise, would there be a genitive in the illustration,¹ as in the sentence "as the sparks of the fire"?

9. The poets call a lad fire (from his hot temper), the face the orb of a full moon, the eye a blue lotus, the bosom mount Meru, and the hand a young shoot; by a confusion of the superimposed appearance we may thus have the idea of identity where there is still a real difference; and so too must we deal with those words of Śruti "I am Brahman."²

10. As there are many waves in the sea, so are we many individual souls in Brahman; the wave can never become the sea; how then wilt thou, the individual soul, become Brahman?

11. In the depths of all Śāstras the two things are both recognized, knowledge and ignorance; so too virtue and vice; and thus also science, and next to it closely clinging behind, but other than it, appears false science; thus everywhere there are opposite pairs, and similar is the notorious pair, Brahman and the soul. How can these two have oneness? Let the good answer with an upright mind.

12. Thou, O Soul, art the reflection of the Supreme Being, who possesses the power of illusion and is the substratum of

¹ This is often used as an illustration in Vedānta works, as *e.g.* Brihad Āraṇy. Up. ii. 1. 20, "as the spider proceeds with his web, as the little sparks proceed from fire, so from this Soul proceed all vital airs, all worlds, all gods, all beings."

² This is another suggested method of interpreting the words "I am Brahman." It may be only a common case of "qualified superimponent indication," as "the man of the Panjāb is an ox" (cf. Kāvya Prakāśa, ii. 10-12). Cf. the definition of upachāra in the Sāhitya Darpaṇa: *upachāro hi nāmātyantam visakāṭitayoh śādrīṣyātīśayamahimnā bhedapratiśiṣṭhaganamātram.*

all, while He, the adorable, shines forth as Himself the original; the one moon in the sky is seen manifold in water and the like; therefore there is a difference between thee and Brahman as between the reflection and its original.

13. Yonder Brahman is described by the words of the sacred texts as not to be known, nor to be reasoned about, and as devoid of all desire; but thou art within the range of speech and of thought; how shall there be oneness of thee and Brahman?

14. Thou art verily bereft of thy understanding, O individual Soul, by the darkness of this doctrine of *Māyā*, while thou constantly proclaimest like a madman "I am Brahman"; where is thy sovereignty, where thy empire, where thy omniscience? There is as vast a difference between Brahman and thee as between mount Meru and a mustard-seed!

15. Thou art a finite soul, He is indeed all-pervading; thou standest only on one spot, while He is everywhere always; thou, being of a moment, art happy and unhappy; He is happy at all times; how canst thou say "I am He"? Fie! art thou not ashamed?

16. Glass is glass, and a gem is a gem; a shell is but a shell, and silver is silver; there is never seen a transposition¹ among them. But wherever other things are imagined to be found in something else, it is through an error; and so it is when the soul utters such words as "that art thou!"

17. The meaning of the word "*that*" (*tat*) is an ocean of immortality, filled with manifest and supreme felicity; the meaning of the word "*thou*" is a most miserable being, bewildered in mind through the burden of the fear of existence; these two can never be one, they are divided by the nature of things; the doctrine of Non-unity is the truth for all worlds, thou art but His slave.

18. If Brahman were meant by these words, the power employed would not be Denotation, for their literal meaning

¹ Dr. Banerjea (*Dialogues*, p. 379) reads *kadāpy atyayañānam*, i.e. *vyabhichāra*; but all the MSS. which I have compared read *na kadā vyatyaya* (or *vyatyayam*) *ñānam*; *kadā* seems irregularly used for *kadāpi*, as it is also in śl. 113, c.

does not apply;¹ consequently it must be the second power of a word, Indication.

19. Yet if so, why should it be Indication? for this arises from some association with the primary meaning; but with what can that substance be associated which is disconnected with everything and without a second?

20. That power of a word is Indication, by which, when the primary meaning is precluded, some other meaning is indicated in connexion therewith, through some motive or through common currency; and its causes are thus three.²

21. Now if there is no Denotation in a phrase, how can there arise any Indication? First there should be some primary meaning precluded, and then there may be the Indication of something else.

22. Where there is no accepted Denotation, how can you there have Indication? If there is no village, how can there be a boundary?—there is no child without a father.³

23. “The lances enter, the swords, the bows and arrows,”—here we have Indication; for the sentence must suggest something else to complete itself, as there cannot be “entrance” in the case of an inanimate subject.

24. “A herd-station on the Ganges,”—here we have the self-sacrifice of the primary to another meaning, since the Ganges, as being in the form of water, cannot be the site of a herd-station.

25. In the example “ghî is life” there is produced the

¹ In such sentences as “That art thou,” “I am Brahman,” etc., the primary power of the words, i.e. “Denotation” (*abhidhā*), could not express the unconditioned Brahman destitute of all attributes; for Denotation rests upon the ordinary conventional meaning, and how could this take in an idea so far removed from ordinary experience? Nor could it be the secondary power “Indication” (*aksharā*), as in the well-known instance of “the herd-station on the Ganges,” where the Ganges, by “indication,” means the shore and not the stream. For “indication” must be based on some connexion between the primary and the indicated secondary meaning; but how can that which is “without a second” be connected with anything?

² I suppose that these are (1) the incompatibility of the primary sense; (2) the common currency of the secondary meaning, e.g. when “Europe” is used to imply its inhabitants in the phrase “Europe makes war;” (3) a motive, as in “a herd-station on the Ganges,” where “Ganges” is used instead of “the bank of the Ganges,” in order to imply the coolness and purity of the spot.

³ Cf. the Bengali proverb *māthā nai tār māthābyathā*, “he has no head and yet he has a headache.”

idea of sameness of form; in the example "this is life" there arises the idea of identity;¹ but the knowledge of the meaning of the sentences will be produced by a metaphor,—there is not brought about a real oneness.

26. The doctrine of Identity is established with a desperate effort, and men have recourse to the power "Indication"; but there are three things which should rise to our view,—the primary meaning, the indicated meaning, and their connexion.²

27. There is here no Denotation from the absence of conventional agreement; there is no Indication from the absence of any reason [to establish it]; by what reason, on the theory of Mâyâ, can Brahman be ever made known?

28. He is described³ in the Veda by the primary power of words [Denotation] as the Maker of the Universe; and by Inference we establish the conclusion that all these things have a Maker.

29. The Vedas are a proof, the Smritis are a proof; there is a being to be proved and known there in many passages; it is the great Personality which is to be made known by all the Vedas,—therefore it is *this* which the Veda takes as its subject.

30. True verbal testimony produces knowledge even in regard to that which is absolutely non-existent,—then how much more in regard to Brahman the Lord, the maker of all that moves or is motionless!

31. It is said,⁴ "Speech retires therefrom together with the Mind,"—but this is its explanation,—give ear: Together with the Mind Speech makes Him its object, and then retires, because His nature is not to be fathomed.

32. "Brahman is not to be made the object of mind or of

¹ In the first ex. there is *śuddha-sāropa-lakṣhaṇā* or "pure superimponent indication," in the second there is *śuddha-sādhyavasāna-l.* or "pure introsusceptive indication," where the *ghī* is swallowed up in the "life." Most writers, however, disallow *upachāra* in *śuddha-lakṣhaṇā*.

² He seems to imply that each of these three requisites fails in the present case,—there is no primary meaning, and still less a secondary, and there is no connexion with any other object.

³ He now proceeds to declare his own opinions.

⁴ Taitt. Upanish. ii. 4.

words,"¹—from this saying it is understood that he is only to be declared by Revelation, Revelation has no faltering action.²

33. "He who is versed in the Word-Brahman attains to the highest Brahman,"³—surely such words of inspired sages are not mistaken babble.

34. Assuredly the conventional meaning of the words "existent," "thought," and "joy" applies to Brahman, just as the words "pot," "cloth," etc., refer to those particular objects.

35. The perception of the conventional meaning of words is aroused by the dialogue of the orderer and the ordered; and afterwards by insertion and omission the child becomes thoroughly skilled in the use of the words.⁴

36. So through hearing the words of the teacher and repeated study of the śāstras the conventional meaning of such words as Brahman, etc., is assuredly produced in the pupil.

37. This earth must surely have had a maker; for its having the nature of an effect is a sign, just as we see to be the case in pots, etc.

38. If it is established that the supreme Lord is the maker, then his having a body follows as a matter of course;⁵ for in all effects, as pots and the like, the maker is seen to have a body and not to be bodiless.

39. [The objector urges] "If the supreme Lord has a body, then he will be like to beings such as we are; there cannot be a maker without an intermediate agency,⁶—I see no difference whatever."

40. But great is the difference which is declared to exist between the Adorable Lord and men working with spades,

¹ Cf. the Kātha Up. vi. 12, "The soul is not to be reached by speech nor by the mind nor by the eye."

² For *skhaladgati*, cf. *Kāvyaprakāśa*, ii. 16.

³ This line is quoted from Ś'ruti in the Maitri Upanishad, vi. 22.

⁴ Cf. Sāhityadarpaṇa, ii. "On the old man's saying, when giving directions to the middle-aged man," etc. The Sāhitya D. uses the terms *āvāpoddhārau*, the Siddhāntamuktāvalī (p. 80) uses *āvāpoddhārau*.

⁵ This is one of the tenets of Rāmānujas as well as Pūrṇaprajñas.

⁶ The *vyāpāra* or intermediate agency is defined as *taj-janyatve sati taj-janya-janako hi vyāpārah*.

sickles, ploughshares, and hands; these are helpless in the six waves¹ [of human infirmity,] and wearied with the burden of labour,—He effects everything by a mere motion of his brow.

41. The Master can make, not make,² and alter; hence one may learn that vast is the interval between the two.

42. If the body is called the site of enjoyment, it is well known that this definition will hold good [even in this highest case³],—there is nothing deficient but everything is present in the Lord's body,⁴ since He is the husband of Lakshmi.

43. "Every body is influenced by deserts,"—if this universal law is accepted, then He who is the Maker of all must be impelled [to create the world] by the deserts which dominate over beings like us.⁵

44. "Every body must be non-eternal,"—this is a general law, yet still Īśvara's body may be eternal; for earth is everywhere seen to be non-eternal, while in the form of its atoms it is eternal.

45. One must not say, "why should the desert of one attach itself to another?" For it was in consequence of the respective merits and demerits of the elephant and the crocodile that the holder of the discus made all haste to interfere in the battle.⁶

46. It has been heard of old that all this universe proceeded from the lotus of the navel of the Lord; hence is it established that he has a body, for how can there be a navel without a body?

¹ Compare the memorial line, *S'okamohan jarāmṛityā kshutpipāse shadūrmayāh.*

² With this curious use of *akartum* (extending the analogy of such forms as *akurvan*, *akritvā*, etc.) cf. Theognis, 621:

pās tis plousion andra tlei artei dē penixrōn.

Cf. Shilleto, Cambridge Journ. of Philology, 1876, p. 161.

³ Could *loke* mean that it will hold good "of the world" as his body?

⁴ Cf. "Whose body nature is and God the soul."

⁵ *I.e.* he creates the world to give their deserts to the different souls.

⁶ The objector urges "why should our good or evil deserts oblige God to act in a certain way?" He answers by referring to the well-known legend given in the Bhāgavata Purāṇa, viii. ch. 2-4. A certain king, named Indradyumna, became an elephant through Agastya's curse. One day, while drinking in a lake, he was seized by a crocodile, and the struggle lasted for a thousand years. At last, in despair, he prayed to Vishnu, who came down mounted on Garuḍa and killed the crocodile. Thus we see that, although in one sense the deserts of one being cannot attach themselves to another, still they must cause certain actions in another being, or it would be impossible that each should receive its due reward or punishment.

47. The body of God is very pure,—to be enjoyed by all the senses, as being richly endowed with the six qualities,¹ —and to be discovered by means of all the Vedas,—Gangâ verily is the water wherewith he washes his feet.

48. Whenever by the influence of time there comes the increase of evil and the diminution of right, then the adorable Lord accomplishes the preservation of the good and the destruction of the wicked.

49. The Lord is said to be twofold, as the Incarnation and He who becomes incarnate; so too the souls are twofold, as divided into faithful and faithless.

50. Now some say that the personal soul is only the reflection of the Supreme; but their opinion does not at all hold, since it cannot be established.

51. For how could there arise a reflection of that Infinite and stainless one? and how could an insentient [reflection] enjoy the pain and pleasure arising from the merit and demerit declared in the Veda?

52. There may indeed be a reflection of that which is limited; but how shall there be one of Him whose attribute is infinity?

53. Râmânuja, the foremost of the learned, condemned this theory of an original and its reflection; the fact that this doctrine is not accepted by the learned, will not make it seem more plausible.

54. There is an eternal division between the two, from the words of the Veda, “two birds;”² from the mention there of “two friends,” how can there be identity between them?

55. I become Brahman, that is, I cease to have mundane existence through beholding the soul in Brahman; the result of this would be the abolition of sorrow, etc., but in no way absolute Oneness.

¹ These six qualities, according to the Commentator on the Bhâgavata P. i. 3. 36, are sovereignty, knowledge, glory, prosperity, dispassion, and virtue; a different list is given in the Sarva Darś. S. p. 54, l. 22 (but cf. p. 69, l. 18). See also *infra* in §1. 95.

² Rig V. i. 164, 20, “Two birds associated together, two friends, take refuge in the same tree; one of them eats the sweet fig; the other, abstaining from food, merely looks on.”

56. I become Brahman also through beholding Brahman in the soul;¹ the result would be the abolition of His being out of sight,² but in no way Oneness.

57. It must not be said that by continued meditation with intent thought a man becomes Brahman; there will only enter into him a little merit; as we see indeed in the case of worms, bees, and the like.³

58. By devotedly worshipping Brāhman without ceasing, a Śūdra will never become a Brāhman; there may enter into him a little merit, but one of the Śūdra caste will never become a Brāhman.

59. The venerable author of the Aphorisms himself established a duality when he spoke of the application of the terms "object" and "agent";⁴ and thus has it been explained by the author of the commentary by quoting passages of the Veda which imply duality, as that which says "the two entered the cave."

60. The soul is also shown to be different [from Brahman] by the evidence of Smṛiti;⁵ thus their difference is proved to be essential. If it were not so, how could the Commentator have used such an expression as "the worshipper" and "the worshipped"?⁶

61. I am sometimes happy, sometimes miserable; He, the supreme Soul, is always essentially happy. Such is the difference,—then how can there be identity between these two different substances?

62. He is eternally self-luminous and unobscured,—

¹ Another reading is *brahmany ātmanirīkṣaṇāt*.

² I.e. it would be always *videre videntem*.

³ Cf. Hitopadeśa, Introd. sl. 45.

⁴ In Vedānta S. i. 2. 4, it is shown that certain passages in the Upanishads refer to Brahman and not the embodied soul, "because of the application therein of the terms object and agent;" as e.g. in the passage of the Chhândogya Upan. iii. 14, "I shall attain it when I have departed from hence." These words imply an agent who attains and also an object which is attained, i.e. Brahman. S'āṅkara in his comment on i. 2. 11 illustrates this by the passage in the Katha Upanishad iii. 1, "The two, drinking the due reward from their works, in this world entered the cave, in the highest place of the supreme soul" (sc. the heart).

⁵ Cf. Vedānta Sūtras i. 2. 6, where S'āṅkara quotes the passage from the Bhagavad Gītā (xviii. 61), "The Lord of all beings abides in the region of the heart,—causing all beings to revolve by his illusion as though mounted on a machine."

⁶ He uses this very expression *upāsyaopāsakabhāva* in his Comment. on i. 2. 4.

intensely pure, the one witness of the world; not so is the individual soul,—thus a thunderbolt falls on the tree of the theory of Identity.

63. For those who maintain the identity of the individual and supreme soul, the hypothesis of a *dvandva* compound¹ is precluded; or they bring forward such words as *drishadupala* as parallel cases;² the *dvandva* is only consistent with “difference,” but in no way with “identity.”

64. Where identity is the meaning, there arises the *karmadhāraya* compound,—for [such a *karmadhāraya* as] *nilotpala* “the blue-lotus” is used as implying that the two members of the compound refer to the same subject.³

65. As there are many passages in Śruti such as that which says “food is Brahman,”⁴ so too this passage “I am Brahman” is to be understood as meaning worship.⁵

66. The doctrine of Identity is not true; wherever it appears to be declared in Śruti, all those passages are to be taken as only meaning worship.

67. There are many sentences in the ancient Veda which speak for non-identity as also for identity; having expelled envy and discussed the truth, let the wise declare that which each thinks wholesome.

68. O soul, bewildered by a deceived opinion, drive far from thy mouth these words “I am Brahman”; how canst thou be That, O thou who art utterly at the mercy of fate, plunged as thou art in the great ocean of mundane existence hard to be crossed!

69. He who is the beloved of Lakshmi, the ambrosia-ocean, full of manifest supreme joy; the water of whose feet is Gangâ, worthy to be worshipped by Rudra and the other gods; who before creation created all instantaneously by a

¹ I.e. in the word *jīvātmānu*.

² I suppose that this means that the *dvandva* compound *drishadupala* has some analogy to one like *jīvātmānu*, which involves identity, as the upper and lower millstone form one instrument; but there (in accordance with Pāṇ. 2. 2. 34, *vārtt.*) the less important word meaning the upper and smaller stone (*upulā*) is placed last (cf. 2. 2. 31).

³ But *jīvātmānu* is a *dvandva*, not a *karmadhāraya* compound.

⁴ Brihad Āraṇyaka Upan. v. 12. 1.

⁵ I.e. this is one of the modes of worshipping Brahman by meditating on him in some lower visible form, not as really expressing his real nature.

movement of his brow,—how canst thou say, O soul, “I am *He*,”—thou who art a poor beggar, not a king.

70. O slow of mind, how canst thou say, I am *He* with whom are filled all the vast stores of this universe in its entirety? Collect thy faculties calmly in thy heart and consider thine own power; can a host of fierce world-supporting elephants enter into the belly of a gnat?

71. Whose art thou? whence art thou come? how is the course of this mundane bondage? Ponder this matter in thy heart and forsake the path of the erring. Say not “I am *He*”; but worship Hari continually in the relation of adorer and adored; by this thou mayst attain the happy journey, but otherwise thou wilt assuredly fall.

72. Great is the misery which thou hast experienced, O Soul, while dwelling in the womb in various births, and thou hast wandered again and again in heaven or in hell; this theory “I am *He*” is an error of thine.—worship thou Hari’s lotus feet; thou art His worshipper, He is the adorable, for He is the lord of the three worlds.

73. Renouncing the so-called theory of identity, forthwith devote thyself to duality, if there now dwells in thy heart a supreme feeling of faith in Hari; and, having learned the doctrine in Nārada’s Pañcharâtra and everywhere else, let all the hymns of the Vaishṇava sacred books be thoroughly examined, as is truly for thy good.

74. By what foolish teacher hast thou been instructed, that thou utterest these words “I am Brahman”? How art thou that being who is continually worshipped by Rudra and all the gods? O fool, consider it and see aright.

75. The wicked cannot understand the difference between the embodied and the Supreme Souls; the great reason for this is a mind possessed by an evil obstinacy in favour of the doctrine of Illusion; just as the tongue of those who suffer from excess of bile cannot taste the sweetness of molasses, nor the eyes of those afflicted with gutta serena or jaundice see the whiteness of a shell.

76. He by a particle of whose intellect thou, O Soul, hast been produced the foremost of intelligent beings—say not,

O knave, that thou art *He*; for who but the ingrate desires to seize the seat of his Master?

77. A particle of intelligence has been deposited in thee by the supreme Lord in His mercy,—it becomes thee not, O knave, to say that therefore thou art God; just as if some evil-minded man had received elephants, horses, and infantry from the king and then set his heart on seizing his kingdom.

78. He under whose control is that mighty illusion which deceives the three worlds, He is to be recognized as the Supreme Lord, the adorable, essentially thought, existence, and joy; but he who is himself always under her control like a camel drawn by a string through his nostrils, is to be recognized as the individual soul,—vast indeed is the difference between the two!

79. Having studied the doctrines of the Sāṅkhya, Kaṇāda, and Gautama, and the doctrine of Patañjali, the doctrines of the Mīmāṃsā and Bhaṭṭabhāskara,¹—amidst all the six current systems,—let the wise tell the final conclusion if they can as to the real nature of the supreme and the individual soul,—is it duality, or is it oneness, or is it again a oneness in duality?

80. In five of the systems I have only heard peremptorily asserted in many places the difference between the supreme and the individual souls; what is this that I hear asserted in the Vedānta system? “Plurality, unity, both,”—this is a threefold marvel!²

81. He who is the maker of all and the Lord of the world is independent by reason of his essential independence; the individual soul is notoriously dependent; how can they say then that these two are identical?

82. There are various flavours in honey [existing distinct] through the difference of the trees [from whose flowers

¹ Colebrooke's Essays, vol. i. p. 359.

² This is an attack on Rāmānuja's system, as opposed to that of Pūrṇaprajña or Madhva, cf. Sarva-darśana S. p. 52, l. 20, “What is the real truth? The real truth is plurality, unity, and both. Thus unity is admitted in saying that Brahman alone subsists in all forms as all is its body; both unity and plurality are admitted in saying that one only Brahman subsists under a plurality of forms, diverse as soul and non-soul; and plurality is admitted in saying that the essential natures of soul, non-soul, and the Lord are different and not to be confounded.” This doctrine is opposed by the followers of Madhva, see *ibid.*, Pūrṇaprajña-darś. p. 61, l. 11.

it is produced]; how else could it remove the three-fold disorders?¹ So the individual souls at the world's dissolution are absorbed in the Lord; but they do not become identified with Him, for they are again separated at the next creation.

83. There is a difference between rivers and the sea, with their respective sweet and salt water; so too God and the soul are different and possessed of distinct attributes.²

84. Rivers, when joined to the sea from all sides, are not identified with it nor yet do they appear to be separate; but from the difference between salt water and sweet water³ there must be a real difference between them.

85. Others see not the difference when water is mixed with milk, but the swan at once separates the milk and the water;⁴ so too when the souls are absorbed in the supreme Brahman, the Lord,—the faithful, who have received the Guru's words, can at once draw a difference between them.

86. Even when milk is mixed with milk and water with water, they do not become absolutely identified, for they still retain their fixed measure as before; so, when the souls through intense contemplation are absorbed in the Supreme Spirit, they do not become identified with Him; thus say the pure-minded saints.

87. There are certain disputants, sunk in a sea of false logic, addicted to an evil way, filled with a hundred imaginations of idle babble, deceived themselves and deceiving

¹ I.e. those affecting the three "humours" of the body, i.e. *vāyu* 'wind,' *pitta* 'bile,' and *kapha* 'phlegm.' Certain flavours of the honey counteract one disorder and others another. The *Suśruta* thus describes honey (vol. i. p. 185): "When cooked it removes the three-fold disorders, but when raw or sour it causes them; when used in various applications it cures many disorders; and since it is composed of many different things it is an excellent medium for mixing. But as it consists of the juices of flowers which are mutually contrary in the action, potency, and qualities of their various ingredients, and it may happen that poisonous insects may be included, it is only good as a remedy for cold diseases."

² In allusion to *Mund. Upan. iii. 2. 8.*

³ Most of the MSS. and the Benares Paṇḍit read *kshiroda*; but the Calcutta ed. and one of the two MSS. in the Library of the Calcutta Sanskrit College read *kshāroda*, which seems preferable. If we read *kshiroda*, the line would require to be rendered, "but from the difference between milk mixed with water and pure water," or perhaps "from the difference between the milk-ocean and the water-ocean."

⁴ Cf. *S'akunt. sl. 155.*

the world,—all that they say, “I am Brahman and all this visible universe also is Brahman,”—is now shown clearly to be an empty desire.

88. If I and all this universe were Brahman, then there would be an identity between thee and me; then thy wealth, sons, and wife would be mine, and mine would be thine, for there would be no distinction between us.

89. And how then could there be injunction or prohibition, since all are one, and there is no distinction of caste? If the doctrine of non-duality be thus held to be established, then what offence has the Buddhist committed?

90. “The Soul is different from the elements, the senses, the internal organ, and primary matter, and also from that which is called the individual,”—thus has it been declared of old by Kapila to his mother in the third book of the Bhāgavata¹ (Purāṇa).

91. Those who study the path pointed out by the teacher, resting upon a foundation of naught, and maintain with an empty understanding that all is void and that all the recognized deities are naught,—how can many words be uttered about them, for language fails in a topic of naught; naught indeed is their wisdom, and their fruit shall be also mostly naught.

92. There are words uttered by Vyāsa in the Bhārata condemning this doctrine of the nothingness of all things;² “their bodies are composed of the quality of darkness, and verily darkness shall be their end;”³

93. These words which were uttered of old by Kapila in the presence of the sage Syūmaraśmi,⁴ were afterwards recounted by Vyāsa in the Bhārata.

94. This theory of theirs concerning a void of qualities in Him who is the ocean of qualities,⁵—it is but like the blind

¹ Bhāg. Pur. iii. 28. 41.

² The name *śūnyavāda* is generally applied to Buddhism; here it is applied by way of reproach to the Vedānta, which is called in the Padma-purāṇa “secret Buddhism” (*prachehannam Baudham*).

³ Mahābh. xii. 9690.

⁴ This dialogue occurs in Mahābh. xii. 9604, ff.

⁵ The Rāmānujas and the Mādhvas deny that the Supreme Being is *nirguṇa*,—thus there is a quotation in the Sarva Darśana S. p. 54, “Vāsudeva is the supreme Brahman, endowed with auspicious attributes” (cf. p. 69, l. 18; p. 73, l. 2).

hurrying of sheep after the ewe that leads them! Having made a separate commentary of their own on the Sûtras they deceive those who follow their doctrine.

95. All these qualities, sovereignty, creation, and the like, eternally belong to the Supreme Lord; how then can He be "without qualities" who is thus "possessed of qualities"? The theory of a void of qualities is mere disputation.

96. The adorable one possesses knowledge, volition, and creative power; how then can he be destitute of qualities? or, if he is destitute of qualities, how can he be set forth by the Vedas? How can the absence of qualities be predicated of the sea of qualities, and yet all remonstrance be silent? Ponder it well in thine own mind, and then determine what is right.

97. A substance without attributes, like the sky-flower, is not admitted either in the Veda or in the world; if the knowledge of such a thing were derived from the Veda, the Veda itself would then cease to be an authority.

98. [The Vedântin may reply] "The bunch of Darbha grass¹ is said to be the sacrificer, as it is the means of performing the sacrifice; [as the Darbha grass is understood by this description,] even though the attributes thus ascribed are not found in it, so is Brahman understood when we ascribe certain qualities [as 'truth,' etc., even though these qualities are precluded in a being without qualities]."

99. [I answer] A thorough Vedântin like thee does not accept any where the existence of qualities or that which possesses qualities; but if imagined qualities are done away with [by deeper insight], real qualities are nowhere done away with.²

100. If Brahman is understood to be destitute of qualities,

¹ This is the *prastara* or bundle of sacred grass, which plays an important part in the sacrificial ritual, cf. Taittiriya S. i. 7. 4, "*yajamānah prastarah*," where Sâyana remarks, "*yajamānavā yāgasādhanatrāt prastare yajamānatropacharah*." This description of the grass as the sacrificer is really only meant as metaphorical praise, since the actual attributes of the sacrificer are evidently absent from the grass. (Cf. *Mīmāṃsā Sûtras*, i. 4. 23.)

² Clearer insight abolishes imagined attributes, as *e.g.* the supposed snake in the rope; but real attributes remain untouched, and we hold Brahman's attributes to be real.—I read *abādhaḥ* in l. 2.

then "truth," etc., will not be applicable to Him; but, if so, there arises a contradiction in such passages [of Śruti] as "he is the truthful," etc.¹

101. When the existence of such a thing as a quality is admitted, we can imagine it in something else;² but to imagine that nacre is silver, we must first know clearly what silver is.

102. This universe is based on the soul as its site, being imagined in it by ignorance; some teachers would describe it as an illusory emanation;³ but this is not a pleasing doctrine to me.

103. It cannot be said that all this universe is false; since it is really the plaything of Hari, who is eternally engaged in sport.⁴

104. The external world is not like a dream; for in dreams there is sleep and a host of imperfections; what we eat or drink in dreams gives us no enjoyment, but these things are enjoyable in our waking state.

105. If all that is seen were false, then how could it produce effects? The carrying of water in a jar is not false; all we can say is that it is transient.

106. The idea that all this world is false, is opposed to experience; for of what use would be all the expiations for sin, prescribed in the law-books? Why are these thieves to be punished even by the king? The upholder of the doctrine of Mâyâ can assert anything on his oath, but all is false.

107. Thou canst not say that the visible world is only like the transitory enjoyment of one who smells a wreath of flowers; however closely it is scanned, there is no overpowering evidence of its unreality [to preclude the pre-

¹ I do not know where this passage occurs, but the kindred word *satyadharman* is applied to several deities in the Rigveda.

² The Vedântins hold that nothing exists besides Brahman; and yet, although they thus deny the existence of any other thing or quality, they hold that certain qualities are imagined to exist in him, forgetting that only one who has seen silver can imagine *rajatatva* in nacre.

³ It is a favourite doctrine of the Vedânta that ignorance, as being imagined by ignorance, is itself false.

⁴ Manu, I. 80, "There are numberless Manvantaras, creations and destructions numberless; the being supremely exalted performs all this, as in sport, again and again."

sumption founded on experience]; it continually manifests itself to us as eternal in its stream of successive events.

108. This world is not false but it is rendered true by Vishṇu's protection; ¹ thou art made pure by the knowledge of Him, as all minerals shine as gold [when brought in contact with the philosopher's stone].

109. Dispassion and enjoyment stand equally aloof as disinterested spectators and are lost in faith; the partaking of the consecrated food is in no sense to be called an "enjoyment,"—it is itself an act of faith.²

110. By intense devotion to his object the man of the world will become the devotee of enjoyment, and by the absence of all enjoyment a man becomes absolutely dispassionate; this is the real truth.³

111. By association with the good and by repeatedly listening to the story of Kṛishṇa's sports there has arisen in the lake of the mind the great wave of pure faith and pure affection; abandoning the doctrine of unity and without hesitation embracing that of duality, we worship with our whole heart the lotus-feet of the beloved of Lakshmi.

112. There is a rule in the things of the world, that he who is near the king may be called the king; so too in the things of Brahman and the soul must we understand the various sacred texts [which at first sight appear to identify them].

113. He in whom the universe,—sun, moon, and the rest,

¹ Or this may mean "since Vishṇu has accepted it as the instrument of his sport."

² "The *prasāda* is any article of food that has been consecrated by previous presentation to an idol, after which it is distributed among the worshippers on the spot, or sent to persons of consequence at their own houses" (Wilson's Works, vol. i. p. 116). Cf. also the legend in p. 134, where "Rām Dās at noon halted and bathed the god, and prepared his food, and presented it, and then took the *prasād*, and put it in a vessel, and fed upon what remained." (The food consecrated at the temple of Puri is especially called the *Mahāprasāda*.) There is a distich current among the Bhāktas:

*jñānam nirākṛitir, Brahma tyaktvā bhaktiā bhajāchhyutam |
yatra prasādasevāpi bhaktir anyasya kū kuthā ||*

"Knowledge is rejection; abandon Brahman and worship Vishṇu. Here where even the homage paid to the *prasāda* counts as faith, what need to mention anything besides?" Thus the devotee does everything by faith, and dispassion and enjoyment are to him alike swallowed up in faith.

³ But the true devotee is neither devoted to enjoyment nor to dispassion, is equally apart from and superior to both.

with the three worlds,—rose into being,—in whom it all abides until it perishes,—and in whom, each in its own time, it is all finally dissolved,—He, the Lord, whom, being beyond all qualities,¹ even Brahman himself cannot declare in the Vedas,—why, O teacher, dost thou teach this miserable me the words “I am He”?

114. He in whom the storehouse of the universe with all its creatures great and small, was all contained like a line of insects drowned in a ripe fruit of the glomerous fig-tree,—in whom it abides until the final destruction,—and in whom it is eventually dissolved,—Ah! how can there come from my mouth, O teacher, these words “I am He”?

115. Him, the Supreme Lord, by whose compassion even the dumb becomes eloquent, the lame in a moment obtains strength to leap mountains, and even the man blind from his birth receives eyes beautiful like two lotuses,—or what still greater marvel shall I add?—Him I worship, the moon-faced son of Nanda, the philosopher’s stone of the faithful.

116. Boundless is time, bounteous the earth, and great is the family of the devout worshippers of Viṣṇu; somebody will be found at some time or other on the earth who will appreciate my merits.²

117. Having studied under my preceptor Nārāyaṇa, the best of teachers, his book, which bears the title of “The Ornament of Faith,”—having read it with all its supplements and appendices, and by his kindness to his faithful disciples having mastered all its mysteries,—and having become a receptacle of faith myself, I have now composed according to my ability this century of stanzas, a necklace of pearls of good doctrine, which have for their subject the distinction of the individual Soul and Brahman.

118. If we have uttered through inadvertence what is wrong, may the intelligent, observing it, correct all the

¹ Cf. Sarva D.S. p. 52, l. 8 infr. “The statements that the Supreme Spirit is devoid of qualities, are intended to deny his possession of phenomenal qualities [such as liking, disliking, etc.].”

² Cf. the s’loka in the prologue of the Mālatīmādhava.

errors; the feet of the traveller do sometimes stumble, and sometimes the speaker speaks through bewilderment what is incompatible.

119. In a poem strung of all excellences the mean man hunts for faults and never an excellence; in a palace all compact of jewels it is the ant that will see a flaw.

120. Let those who are envious and bereft of sense, detect a fault if they will; but let the connoisseurs count the merits; they who behold the merits and not the faults,—these are the good, these give the highest satisfaction.

121. Let this work of the poet Pūrṇānanda be read and be heard, which is devoted to proving the difference of the individual soul from the Supreme,—which is excellent with its sentences that distinguish truth from falsehood, and is approved by the devotees of Viṣṇu,—based on the doctrine of Mādhva, and pleasing with a composition full of sweet words,—O ye best of the worshippers of Bhagavat, if faith be desired in your minds.

122. On the neck of the faithful may this Tattvamuktāvali¹ abide for ever,—whose beauty is increased by the apt arrangement of sweet and soft words but which is free from rhetorical ornaments,—beautiful with a profusion of sentences sweet like milk, and with its parts all bright and elegant,—a special source of delight to the intelligent,—charming with a host of excellences and devoid of even the trace of a fault.

¹ Or “the necklace of the pearls of truth.”

ART. V.—*Two modern Sanskrit ślokas.* Communicated by
Prof. E. B. COWELL.

PROFESSOR WILSON left Calcutta in 1832, having been appointed to the Boden Professorship of Sanskrit at Oxford. He had been one of the leaders of the Orientalist party in the General Committee of Public Instruction, as opposed to the pure "Anglicists"; and since each party held extreme views as to the respective value of Eastern and Western learning, his departure was naturally regarded as an evil omen to the cause of Sanskrit by the students and teachers of the Calcutta Sanskrit College. My old Paṇḍit, Rāmanārāyaṇa Vidyārātṇa, was a pupil in the College at that time; and he has often described to me the scene when the paṇḍits met to bid Wilson farewell, and one of them addressed him in a Sanskrit śloka, which is still well remembered by every native scholar in Calcutta. The college tradition is that Wilson's stern face was softened to tears, as he heard its pathetic appeal.

अस्मिन् संस्कृतपाठसदस्यसे संस्थापिता ये सुधी-

हंसाः कालवशेन पञ्चरहिता दूरं गते ते त्वयि ।

तत्तीरे निवसन्ति संहितशरा व्याधाः समुच्छिन्नये

तेभ्यस्त्वं यदि पासि पालक तदा कीर्त्तिश्चिरं स्थास्यति ॥

"The Paṇḍit swans, who dwell in this lake of the Sanskrit College, are deprived of their wings by the influence of malignant fate, when thou art gone away; on the bank stand the fowlers with their arrows fixed for our destruction,—if thou, O guardian, canst guard us from them still, long indeed shall thy fame endure!"

The old controversy is now a past and almost forgotten

theme, and Sanskrit continues to flourish in Calcutta side by side with English education; but the lines may be still worth a permanent record as an interesting memorial of Wilson and his great work as one of the pioneers in the revival of Sanskrit literature.

The other śloka is one to which Sir W. Jones refers in his preface to his translation of the drama Śakuntala. "A modern epigram," he says, "was lately repeated to me which does so much honour to the author of Śakuntala that I cannot forbear exhibiting a literal version of it: 'Poetry was the sportive daughter of Vālmiki, and, having been educated by Vyāsa, she chose Kālidāsa for her bridegroom after the manner of Vaidarbha; she was the mother of Amara, Sundara, Śankha and Dhanika; but now old and decrepit, her beauty faded, and her unadorned feet slipping as she walks, in whose cottage does she disdain to take shelter?'"

I have often asked Calcutta paṇḍits if they could remember the Sanskrit original; but the only one who could repeat it throughout was Paṇḍit Premachandra Tarkavāgīśa, the late Professor of Alaṅkāra in the Sanskrit College.

वाल्मीकेरजनि प्रकाशितगुणा व्यासेन लीलावती
वैदर्भी कविता स्वयं वृत्तवती श्रीकालिदासं वरम् ।
यासूतामरसिंहमाघधनिकान् सेयं जरानीरसा
शून्यालंकरणा खलन्मृदुपदा कं वा जनं नाग्रिता ॥

The two texts are not precisely the same and the list of poets in each differs; but the only important variation is probably due to an oversight of Sir W. Jones, who did not observe that "Poetry" herself is especially described as "Vaidarbhi," in allusion to the *Vaidarbhi riti*,¹ or "sweet style," which is peculiarly the characteristic of Kālidāsa, though of course there is also a reference to the *svayamvara* of the princess Damayantī.

¹ Cf. *Sāhitya-darpana*, book ix.

ART. VI.—*Malagasy Place-Names.* By the Rev. JAMES
SIBREE, Jun.

PLACE-NAMES, it is now acknowledged, form one of the most reliable sources of information as to ancient and prehistoric times, and are among the most enduring and unaltering records of the past. In all the older countries of the world the names of the mountains and rivers, of the fields and the valleys, of the farms and villages and towns, as well as of all other geographical features, reveal the existence and successive occupation of the soil from remote epochs by many different races of mankind. And in the newer countries the names given to places tell in the plainest terms of their discoverers, and often fix the date of their becoming known to the civilized world.

An inspection of a map of the island of Madagascar shows a curious difference between the nomenclature of the coast and that of the interior. In the latter the names are entirely native, for no European power has ever succeeded in establishing itself in the country for any lengthened period; but the coast is fringed with a variety of European words—English, French, and Portuguese—as well as with Malagasy names. Thus we find ‘William Pitt’ Bay and Port ‘Liverpool,’ commemorating the leading English statesmen of the time when the first complete survey was made of the coast by Capt. W. F. W. Owen, R.N., whose ships’ names are also perpetuated in ‘Leven’ Port and ‘Barracouta’ Island. The treachery of the native population is remembered in ‘Murder’ and ‘Grave’ Islands, where some of Owen’s crews were killed by the people; English Admiralty and other officials’ names were given to Port ‘Crocker,’ Point ‘Barrow,’ ‘Dartmouth’ River, Point ‘McClure,’ ‘Dalrymple’ Bay, and ‘Barlow’ Island; and British surveys of the western

coast have also left their mark in 'Barren' Isles, and in 'Crab,' 'Coffin,' and 'Sandy' Islands, in the Mozambique Channel.

The earlier French intercourse is marked by the names of Fort Dauphin, Port Choiseul, Foule Pointe, and Louisbourg, a record of the monarchical times, nearly two centuries ago, when so many disastrous attempts were made by the French to establish themselves on the eastern side of the island. And going back further, to the discovery of Madagascar by Europeans, the maritime enterprise of the Portuguese three hundred and seventy or eighty years ago is marked indelibly on the map, together with their religious fervour, by the names of various saints which they gave to the chief capes all round its shores—St. Mary, St. Andrew, St. Vincent, and St. Sebastian¹—as well as the Isle of St. Mary, the Bay and River of St. Augustine, the Bay of St. Luce, the Shoal of St. Bonaventura, the town of St. Thomas (now called Tamatave), and the name of San Lorenzo, by which the island was known for long after its discovery. Two or three of their famous captains are also kept in remembrance in 'Antongil' (Antonio Gil) Bay, 'Diego Suarez' Sound, and 'Juan de Nova' Island.

Going back earlier still, to the Arab settlements both on the south-east and north-west coasts of Madagascar, although these have left enduring traces of their presence in the language of the Malagasy, they do not seem, as far at least as our information at present extends, to have affected the place-nomenclature of the country. The Arabs have given the names used by many tribes to the days of the week and of the months, the terms connected with superstition, witchcraft, divination, etc., and words employed in the arts of civilized life—dress, money, bedding, music, etc.; but their influence does not appear to have extended to the names of towns or geographical features, with one possible exception. This is the name of the chief lake of Alaotra, in the Antsi-

¹ The most northerly cape of Madagascar, now known as Cape Ambro or Amber, was formerly called Cape Natal, from its being discovered on Christmas Day (*dies Natalis Domini*).

hànaka province, which, according to the Rev. L. Dable, is probably the Arabic *Al-lutat*, 'the dashing of the waves,' the same word which is given as a name to the Arabs from beyond the Mozambique Channel, who are called by the Malagasy the 'Talaotra.'¹

The object of this paper is, however, to call attention to the *Malagasy* place-names in Madagascar; to show how they illustrate the mental habits of the people and their powers of observation; to point out some few historical facts which are probably preserved in certain names; and to note a number of words of obscure or doubtful meaning which are embodied in many of the names of places, and which are possibly relics of an occupation of the island anterior to the arrival of the present prominent Malayo-Polynesian element in the population. Our knowledge of the various dialects of the Malagasy language is still too fragmentary and imperfect to allow of much being done at present in the direction indicated in this last point; and one chief result aimed at in noting down here some of these particulars is to provoke inquiry and research on the subject. Madagascar will prove an exception to almost every other country if a careful analysis of the names of its mountains and rivers, valleys and plains, towns and villages, and other geographical features, does not throw some light upon the earliest occupation of the island, and the successive waves of population which have passed over its surface. There are several reasons for believing that an earlier and less civilized race than the present inhabitants once occupied the interior of Madagascar, and it is possible that some of the obscurer words embodied in certain place-names are relics of this aboriginal people.

There is unfortunately a peculiarity in the habits of the Malagasy, in common with all the Polynesian races, with regard to names, which introduces an element of uncertainty into geographical nomenclature, viz., the practice of tabooing words or particles which enter into the composition of the names of their chiefs. As all personal names have some

¹ In Dumont D'Urville's *Vocabulaire Madéass-Française*, *alaotr* is translated 'au large.'

distinct meaning, and are largely composed of commonly-used nouns, verbs, and adjectives, as well as the names of animals, plants, etc., it constantly occurs that the names of most familiar objects and actions have to be changed through forming part of their sovereign's or chief's names. From this cause, writes Mr. Hastie, British Resident at the Court of Radama I. (1817-1826), "the names of rivers, places and things have suffered so many changes on the western coast, that frequent confusion occurs; for, after being prohibited by their chieftains from applying any particular terms to the accustomed signification, the natives will not acknowledge to have ever known them in their former sense" (*Tyerman and Bennet's Voyages*, p. 276, 2nd ed.). There is reason to believe, however, that this cause of change and uncertainty applies much less to the place-names of the central and eastern districts of the country, and that the *taboo* (Malag. *jady*) there more affects the names of objects and actions than those of places.

Before considering the names of places in Madagascar, a word or two may be said about the name of the country itself. There seems much reason to believe that the word 'Madagascar' is not a native name, but is one that has been given it by foreigners. There appears to be no Malagasy root in the word, and the combination of the consonants *sc*, or *sk*, is one not allowed by the genius of the language. The island used to be termed by the people *Izao rehetra izao* 'This whole,' in accordance with the belief of many insular nations that their own island is the principal part of the world; and in the time of Radama I., and subsequently, it was also described as *Ny aniron' ny riaka* 'The [land] in the midst of the flood.' According to some accounts, an old designation of the country was *Nosin-dambo* 'Island of wild-boars,' these animals being the largest wild creatures of the forests. The only attempt at explaining the derivation of the word 'Madagascar' which I have seen is that given in one of the earliest books upon the island, a German work published at Altenbourg in Meissen in 1609, and entitled *Beschreibung der Mechtigen und Weitberhumbten Insul Madagascar*, by Jerome

Megiser ; in which it is affirmed that the African kings of Madagascar and Adel conquered the coast region of the island ; that "the inhabitants have also been forced to swear to recognize no other for their king, and the island also is to be called nothing else but Magadaxo. This word was afterwards corrupted into Magadascar, and at last became Madagascar, which name it kept until the Portuguese afterwards gave it another name, as has been mentioned before." Whether or not this contains any historical fact, it is now difficult to decide. Besides the names for the island already mentioned, this German work also gives many others, most of them applied by the Arabic geographers, one being 'The Island of the Moon ;' they wrote the name either Kamar or Komr, the same word which enters into the name of the 'Comoro' Group, to the north-west of Madagascar. These islands are called by the Arabs Komair, or the Lesser Komr. The name as applied to the whole island survived until the arrival of the Portuguese, for on one of the oldest maps, the *Charta Marina Portugalensium*, of the first decade of the sixteenth century, the name Komortina occurs for the island in addition to those of Madagascar and San Lourenço.

Coming now to the place-names in Madagascar, we may first look at those of *Mountains*, the most prominent and awe-inspiring of all natural features, and to which the imagination of simple peoples soon affixes descriptive epithets. The interior provinces of the island (from which regions all these illustrations are taken) constitute an extensive elevated mountainous region, occupying rather more than a third of the total area of the country, and raised from 3000 to 5000 feet above the sea. This hilly region is composed of primary rocks, and the loftiest summits are of granite, gneiss, and basalt. It will be seen, however, that one prominent descriptive class of names for mountains in most countries is wanting in these Malagasy names : there are none denoting the *whiteness* given by snow. Although the highest points are only a little under 9000 feet above the sea-level, this is yet, in that part of the tropics, too low for snow to lie ; snow is indeed unknown in Madagascar, and so there are no

equivalents in its mountain-names for the Snowdon, Ben Nevis, Snafells, or Sierra Nevada of Europe, or for the Hormus, Lebanon, or Himālayah ('Abode of Snow') of Asiatic countries.

It will also be noticed that almost all these mountain-names commence with the letters *I* or *A*. The former is merely a particle (it might almost be termed an article) which is prefixed to denote place-names, as well as tribal and personal names. The other letter is part of the preposition *An-* (changed for euphony to *Am-* before certain consonants), 'at,' giving a localizing sense to the word it precedes. Further, it will be also remarked that the syllables following *Am-* are, in a great number of cases, *bôhi-*, contracted from *vôhitra*, a word now usually taken as meaning a 'town,' and indeed forming the first part of a vast number of Malagasy town-names.¹ But as there are quite as many mountains as towns having *Ambôhi-* as the first part of their names, it is probable that *vôhitra* originally meant a 'hill,' especially when it is remembered that the root of this word is the same as that from which a number of words, such as *bôhy*, *bôhibôhy*, *bôhitra*, etc., are derived, all of which have the idea of 'swelling,' 'puffing,' 'convexity,' and 'protuberance.' One of the grandest mountains in Madagascar, situated near the northern extremity of the island, is called *Ambôhitra*, and is said to be more than 6000 feet high. The usual word for mountain, *tëndrombôhitra*, i.e. 'point of the town' or 'hill,' also confirms this; the old towns in the centre of the island were always built for security on the tops of hills, so that the names of hill and town seem quite interchangeable.²

As might be supposed, the idea of *height* and *prominence* is one of the most frequently occurring in mountain-names in Madagascar. Thus we find several called *Angàvo* 'The lofty,' and one of the grandest mountains in eastern Imérina is *Angàvokely* 'Little-lofty,' to distinguish it from the *Angàvo*

¹ *Ambôhimanga*, 'At the blue town;' *Ambôhidava*, 'At the long town;' *Ambôhitrandriana*, 'At the prince's town;' *Ambôhimanjaka*, 'At the king's town,' etc., etc.

² A hill is *havôana*, lit. a 'height.'

which forms a magnificent tower or outwork, so to speak, of the mountain wall on the eastern side of the upper plateau. There is also Avomàsina, the 'Sacred-high' (place); and one of the loftiest peaks in the Vavavato district in southern Imérina is Iàvohàika 'The-lofty-defying-one,' a mountain nearly 7000 feet high. The word *ambòny* 'above,' also occurs in several names, as Ambònilòha 'Overhead,' Ambònivòhitra 'Above-the-town' (or hill); as well as *lòha* 'head,' in Iàvolòha 'Lofty-headed,' Lòhavòhitra 'Head-of-the-hill' (or town), one of the highest mountains in Vònizòngo. *Asàndratra* 'raised,' 'exalted,' forms part of several names, as Nasàndratany; as also does *àrina* 'set up,' 'lifted up,' in such words as Ambòhimiàrina. There are numerous mountain-names in which the root *ràngy*, meaning 'loftiness,' 'conspicuousness,' comes in; thus we find Andringiringy, Mähakiringy, and Andringitra, a very prominent ridge fourteen miles north of the capital, and closely connected with the old idolatry; a cave in its steep southern slopes being a Malagasy Delphi, the former abode of the god Rànakandriana. The same meaning of height and eminence is found in Milangàna (from the root *lànga* 'tall, lofty'), a lofty point north of the old capital Ambòhimànga. Much the same idea is implied in the root *rànga* 'having the ears erect,' a word applied to animals, and found in the name Andràngarànga. The commanding position of some eight or ten Imérina hills is implied in their name Mähatsinjo 'Able-to-gaze' (from), *tsinjo* being a word usually applied to looking at distant objects.¹ From an almost exactly synonymous root, *tàzana*, comes the name of another mountain, Fitazànana 'The Outlook.' The sharply-pointed peaks of some hills again have suggested the idea of a 'spur'² (Mal. *fàntsy*), which is accordingly given to some of them; while another is called Ambòhimarànitra 'Sharp-hill;' another is Antèdro 'At-the-point;' and others are Itsiloàbo 'Lofty-thorn,' and Ivàtotsilo 'Thorn-rock.' One mountain name, Madiotàndroka

¹ A hill from which the Imàmo district can be surveyed is called Mähatsinjo-imàmo, i.e. 'Able-to-look-over-Imamo.'

² Also found in reduplicate form, as Ampàntsifàntsy.

'Clean-horn,' reminds one of the Matterhorn and Schreckhorn, etc., of the Alps.

Height of course involves some degree of *mystery* and *dread*, which ideas are accordingly embodied in several mountain-names. Thus we find Ambòhijànahàry 'God's-hill,' in several districts; the word Zànahàry (Creator) being vaguely applied by the Malagasy to many things which they cannot understand; as is also the other word for God, Andriamànitra, as in Andriamànitravàto 'God's-rock,' and Ambòhitràndriamànitra 'God's-hill' (or town). Of names of this class are Imanòndrolànitra 'Sky-pointing,' and Itsi-andànitra 'Not-in-the-sky.' A mountain in the Tanàla (forest) region is the Malagasy Hades, the caves in it being supposed to be the dwellings of departed spirits, and is called Iràtsy (or Iràty) 'The-evil-place.' The very few Europeans who have ascended the peaks of Ankàratra, the highest mountain-mass in the island, have described the great reluctance of the natives to accompany them, and their terror of some supposed malignant influence on those lofty summits (see *Antanànavivo Annual*, No. i. p. 62). Zàvana 'mist,' enters into the composition of several mountain-names, as Ibèzàvana 'Much-mist,' Ifòtsizàvana 'Mist-whitened,' and Manélozàvana 'Mist-shaded' (?), and Tsiàfajàvana 'Not-free-from-mist,' the name of one of the highest peaks of Ankàratra. *Inaccessibility* is involved in several other names; as Tsiàfabalàla, Tsiàfakalika, and Tsiàfakàfo (another Ankàratra peak), which three names mean respectively 'Impassable by a locust,' 'by a dog,' and 'by fire.' Almost exactly the same meaning is given in the names Tsiàzombòrona, Tsiàzon-ambòà, and Tsiàzompapàngo, which mean 'Unattainable by a bird,' 'by a dog,' and 'by a hawk.' The sharp cutting wind on these elevated points gives a name to one hill, Sàrodri-votra 'Difficult (through) wind;' while the variety of blasts has probably suggested another name, Imàrorivotra 'Many-winds.' Possibly the howling of the wind round the top gives the name of another hill, Ambòhimitréna 'Bellowing-hill.'

Somewhat poetical names occur in Ambòhijànàmàsoàndro

'Hill-of-children-of-the-Sun,' in Fònovàratra 'Thunderbolt-covering,' in Tòmpombòhitra 'Lord-of-the-hills,' in Andrianàmbo 'King-of-the-heights' (or 'Kingly-height'), and in Malàkiàlina 'Quickly-night,' the name of a hill north of Ambòhimànga, whose height causes a deep gorge to the east of it to be soon in darkness after sundown.

As height also involves *size*, the word *bè* 'big,' is found in many names, as Ambòhibé and Ivòhibé 'Big-mountain,' Antànambé 'Big-town,' Màngabé 'Big-blue' (probably referring to the colour of the basalt rock), Ivàtobé 'Big-rock,' and Bòngabé 'Big-hill.' The first part of the last-named word also enters into several hill-names; it means a clod, a turf, and also a round hill, so we find Bònga, Bòngabé, and Bòngukély, *i.e.* hills, big and little.¹

It has already been noticed that the primary rocks form most of the highest points of Madagascar, and the word *ràto* (euphonically changed after *am-* to *bato*) 'stone,' is therefore a very frequently occurring one in these mountain-names, and in one connexion or another forms part of about a fourth of all the names of hills in which natural features are referred to. Thus we find it in its simplest forms of Ambàto and Ivàto, and then in combination with the words for the colours blue, black, white, red, and speckled, as Ambàtomànga, Ambàtomainty, Ambàtofòtsy, Ambàtoména, and Ambàtovàndana; with those for size—little, big, and immense, as Ambàtokély, Ambàtobé, and Ambàtovavènty; and with those for height, length, roundness, steepness, bareness (*lit.* 'baldness'), and wooded outline (*lit.* 'hairiness'), as Ambàtoàvo, Ambàtolàva, Ambàtovòry, Ambàtomihàntona, Ambàtosòla,² and Ambàtovolòina. Besides these are King's-stones, Prince's-stones, many Famous-stones, as well as some Level-topped-stones, Sharply-pointed-stones, and Double-peaked-stones.³ Some hills, which terminate in a solitary column of

¹ Probably the same idea of rounded convexity comes in, somewhat indelicately to our English notions, in Bévòhoka 'Pregnant' (*lit.* 'Large-wombed'), and Kitròka 'Belly,' both names of hills in Imerina.

² Also simply as Antsòla 'Bald-one.'

³ Ambàtomanjàka, Ambàtonandriana, Ambàtomalàza, Ambàtomàrina, Ambàtofisaka, Ambàtosàmpana.

rock, have the same name as that given to the memorial erected stones, so common in Central Madagascar, *Vatolàhy* (*lit.* 'Male-stone'); one with a double head is called *Bàka*, that is, V-shaped, a term applied to the horns of cattle; others, with three points, are the 'Three-sisters'-rock'—*Ambàto-tèlomirahavavy* (a very grand hill of this name is conspicuous near the eastern edge of *Imérina*, and looks from some points like a Titanic cathedral); while others again are the 'Three-men-rock' (*Ambàtotèlolàhy*); and one is called *Ambàtomandrindry*, probably from a root meaning 'thickly studded,' here, of course, with boulder rocks. Others, solitarily conspicuous, are called *Ambàtotòkana* 'Separated-stone;' and the idea of an upright column gives another name, *Mahitsy*, 'Straight' or 'Upright;' and we also find *Antànjombàto* 'Rocky-promontory.' A very remarkable rocky region south-west of *Ankàratra* is termed *Vàvavàto* 'Stone-mouth;' another hill is *Ambàtofidirana* 'Entrance-stone,' while both in Northern *Imérina* and in Southern *Bétsiléo* are *Vàravàmbàto* 'Stone-gateway,' names given to mountain-passes in those provinces. But it would be tedious to particularize all the varied combinations into which *vàto* enters in Malagasy mountain-names, the more so as many are now obscure in meaning.¹

Another word for rock, *hàrana*, is also found in many names for hills. *Ankàrana* is the name of the most northerly province in the island, and is so called on account of its famous rocky fastness (see *Antan. Annual*, No. iii. p. 27); and this word is probably the root of the word *Ankàratra*, the name, as already mentioned, of the loftiest mountain-mass in Madagascar. We also find *Harànambé* 'Big-rock,' *Ankàrankély* 'Little-rock,' *Ihàrana*, *Ihàranarivo* 'Thousand-rocks,' *Ankàraména* 'Red-rock,' *Ihàranandriana* 'Prince's-rock,' *Ankàramaina* and *Ihàrandàva* 'Dry-rock' and 'Long-rock,' and several names include both the words for stone and rock, as *Ambàtoharàna*.

While mountain-summits in Central Madagascar are usually of bare rock, here and there their names show that wood,

¹ One of the tribal divisions of the Hova Malagasy bears the name of *Mandia-vàto* 'Treaders-of-the-rock.'

more or less extensive, once covered their heights, and in many names *àla* 'forest,' comes into combination. Thus we find *Iàlarà* 'Two-woods,' *Anàlabé* 'Great-wood,' *Ivôhiàlabé* 'Hill-of-much-wood,' *Anàlamanàntona* 'Hanging-wood,' *Anàlamiràviràvy* 'Overhanging-wood,' *Anàlamanàra* 'Cold-wood,' *Anàlamahitsy* 'Upright-wood,' *Anàlambàno* 'Heron's-wood,' *Anàlambàto*, and also *Isòmotra* 'Beard,' probably a fanciful allusion to woods; and several others, including words of obscure meaning. *Hazo* 'tree,' also occurs in several hill-names, as *Ankàzotòkana* 'Solitary-tree,' *Ankàzobé* 'Big-tree,' and *Ankàzomiròhitra* (perhaps *mirohotra*, which would mean 'a company of trees'). The names of separate trees or grasses distinguish other hills, as *Ambérobé* (*vero* is a long grass), *Inàtobé*, 'Much-nàto,' the name of a tree whose bark yields a red dye, *Ambòlobé* 'Much-bamboo,' *Ivoàra* 'Fig-tree,' and *Ambiàty*, the name of a tree. *Vàry* 'rice,' and *fàry* 'sugar-cane,' also occur in the names of three or four hills; *Ambòhibàry* is a very lofty mountain in S. Bétсилé; and we also find *Tàmponkétsa* 'Summit-of-rice-ground,' and *Antsàhafàry* 'Sugar-cane-field.' The fragrant grasses found in many places have suggested names for several hills, the word *mànitra* 'fragrant,' forming parts of the following: *Isàhamànitra*, *Ivòhimànitra*, and *Avomànitra*. A beautifully wooded mountain in the *Anàtivòlo*¹ district is called *Vòhiléna* 'Wet-hill' (?), probably from the moisture attracted by its numerous trees.

The generally waterless character of the hills is however indicated in several of their names, as *Andrànoritra* 'Dried-up-water,' *Fàsina* 'Sand,' *AmpàsimaVo* 'Brown-sand,' *Vòvotàny* 'Earth-dust;' while some others, which have lakes and springs as the source of rivers, are called *Andrànofito* 'Seven-streams,' *Imàroràno* 'Many-waters,' *Màsinòny* 'Sacred (or salt) river,' *Farihilàva* 'Long-lake,' and *Mànjaràno*, perhaps, 'Dun-(coloured-)water' (this is also the word for plumbago). One hill is called *Anìvoniràno* 'In-the-midst-of-waters.'

The pleasant situation and pure air of many hills is re-

¹ *I.e.* 'Amongst-the-Bamboos.'

cognized in their names, as Ambòhitsàra 'Good-' and Ambòhitsàrabe 'Exceedingly-good-hill,' Ambòhitsòà 'Pleasant-hill' (a frequent name), Nòsifàly 'Joyful-island,' Nòsisòà 'Pleasant-island,' Bémàsoandro 'Much-sun,' and Tòkotànitsàra 'Good-settlement;' while the steep ascents and difficulty of climbing to their tops are shown in the names of others, as Māhakétraka 'Disheartening,' and Māharéraka 'Exhausting.' The deep *hady* or fosses with which many hills are scored, and dug as defences for the town on the summit, give in various combinations several names, as Ankàdivòry 'Circular-fosse,' Ankàdibé 'Big-fosse,' Ankàdifòtsy 'White-fosse,' Ihàdimànga 'Blue-fosse,' etc. So also the word *vala* an inclosure, is a part of a few hill-names, as Ambàlahirana and Ambàlafàsana, although it is more strictly and frequently, as might be supposed, a town-name.

From the large number of extinct volcanic cones in the interior provinces of Madagascar, extending probably almost in an unbroken line from the south to the north and north-west, one might suppose that in the names of some of them at least we should find some reference to fire or heat. I can, however, find only two or three instances where possibly some remembrance of igneous forces is preserved, viz. in Ambàtomây 'Burnt-rock,' and Iàmboàfo 'Lofty-fire,' the names of two mountains in the Tanàla province, and in another named Kitròka, a word which means 'lava.'

A considerable number of mountains are designated after the names of *Animals* and *Birds*. Most numerous are those called after the guinea-fowl, *akànga*, there being probably at least a dozen named Ambàtonakànga 'Stone-of-the-guinea-fowl.' Then come several called after the cock, Ambòhitrakòholàhy; the large hawk, Ambàtomboromahèry; the kestrel, Ikitsikitsika; the kite, Masiapapàngo, *i.e.* 'Fierce-with-kites;' the dove, Ambòhibòromailàla; the cardinal-bird, Ifòdy; the peacock, Vòrombòla; and there is one called 'Feather,' Vòlombòrona. (As already mentioned also in speaking of names denoting height, there are numerous hills called 'Impassable' by birds, hawks, kites, etc.) The largest and most valuable animal of the country, the humped ox,

omby, gives names to a good many hills; in its simplest form, Ambòhitròmby 'Ox-hill,' and Ambòhitròmbalàhy 'Bull-hill,' and in Andràokòmby 'Licked-up-by-oxen,' Antàndrokòmby 'Ox-horn,' Anràfonòmby 'Ox-hump,' and in Ambòhimanòto 'Butting-hill.' The words for sheep (*òndry*), goat (*òsy*), and wild-hog (*làmba*), are found in several hill-names; as Ambà-tonòndrilàhy, Antsàhanòndry, Ambòhitròndry, Ambàtonòsy, and Lòhalàmbo 'Hog's-head.' Even the crocodile also appears in these mountain-names, as in Màmba, although, as might be supposed, it is more frequently found in river-names; and also the hedgehog, in Ambòhitsòkina. We also find 'Many-rats,' Màrovàlàvo; 'Many-fleas,' Màroparàsy (a rather frequent and uncomfortably appropriate name for many villages); 'Many-ants,' Màrovitsika; and two or three 'Honey-hills,' Ambòhitantély.

A smaller number of mountains have received names which may almost be termed '*Personal*,' and are derived either from some renowned king or chief, or have some obscure reference to people, their numbers, relationships, etc. Thus we find the 'mountains' of Ratrimo, Rasòmotra, Razàka and Rafilo; the 'cattle-fold' (*fàhitra*) of Andriamandròso; and the 'hill' of the renowned chief who founded the Hova monarchy and supremacy, in the unconscionably long name of Bònganàndrianimpòinimérina! The name of the supposed aboriginal tribe of the interior is contained in Soavazimba, and that of the Hovas in Famohilankòva. An oriental exaggeration of numbers comes in in Ambòhitrarivobé 'Hill-of-many-thousands,' and in Ambòhipòlòàlina 'Hill-of-ten-ten-thousands;' we find also 'People's-hill,' 'Son-of-men's-hill,' 'Hill-of-the-old,' 'Slave's-hill,' 'Prince's-hill,' 'King's-hill' (in Manjàkabé 'Great-king,' simply); and the hills of the 'Good-father,' the 'Grandchild,' and of 'Sacred-chanting' (Ambòhimiràry). Two or three Imérina hills have a strictly personal name, as Ramànarivo and Ràntoàndro.

A very numerous class of mountain-names I have grouped as of '*doubtful*' signification, meaning thereby not that the words themselves are obscure in meaning, but that the reason for giving such names is doubtful. They comprise verbs,

adjectives, and nouns, and while in some cases an examination of the particular hill, or inquiry among the nearest inhabitants, might very likely afford some clue to the origin of the name given, in many cases the reason is probably hopelessly lost. A few examples may be now given; and of *nouns* used as names we find the following: Anjomba 'Conch-shell,' Ambòhibòla 'Money-hill,' Ampériféry 'Pepper-place,' Bétongotra 'Many-footed,' Antémitra 'Matted,' Sòmpatra 'Rice-basket,' Vinàny 'A Guess,' Ambilàny 'At-the-pot,' Ambòhimizàna 'Money-scales-hill,' Ankàfotra 'At-the-hàfotra' (tree), Laona 'Rice-mortar,' etc.

Of *adjectives* employed as hill-names there are only a few, as Mangidy 'Bitter,' Mòra 'Easy,' and Manéva 'Beautiful;' but a large number of verbs are used as hill-names; e.g. Ambòhitsimioza 'Not-cursing-hill,' Mānana 'Having,' Ambòhimanāhy 'Disquieting-hill,' Ambòhimanòza 'Tribute-paying-hill,' Ambòhimāhalāla 'Knowing-hill,' Māhasàrotra 'Making-difficult,' Ambòhimāndràny 'Receiving-hill,' Ambòhitsiléo 'Unconquered-hill,' Mānadāla 'Making-foolish,' Manālalòndo (perhaps) 'Throwing-off-drowsiness,' and Mahasòza 'Benefiting.' A curious name occurs in Māntsihoàiza, which is, literally, 'Say, where to?'

It will be thus seen from these examples, from a few groups of Madagascar mountain-names, chiefly taken in the centre of the island, that there is much variety in them; and that some of them give evidence of considerable imaginative power on the part of the early inhabitants of the country. I do not here attempt to speculate on the facts possibly embodied (fossilized, so to speak) in another large group of names whose meanings are obscure, and which may probably in some cases prove to be archaic words, and may in others preserve obsolete forms of the verbs and other parts of speech. Written, as this paper is, away from Madagascar, and without the opportunity of consulting intelligent native Malagasy, it would be mere guess-work, in the majority of cases, to attempt such an investigation. I can but hope, however, that those Europeans who are resident in the country will make inquiry into this class of names, not

mountain-names only, but all other obscure place-names as well, and so endeavour to throw light upon what will probably prove in Madagascar, as well as elsewhere, a very interesting branch of philological research. I will give a dozen out of a hundred instances of mountain-names which are obscure in meaning: Babay, Antaolàndra, Ambòhitralaténina, Maràmpona, Mähakòzana, Kijòny, Kipàtso, Mòngy, Ambòhimiangàra, Nànja, Iàsy, Ambòhilòmpy, Ràngo, Màmamngy.

Before concluding this division of the subject, it may be added that almost all travellers in the interior of Madagascar have been impressed with the grandeur of the mountain scenery. Dr. Mullens, in his *Twelve Months in Madagascar*, says: "This mass of mountains (the Vavavàto) is piled up on the grandest scale. Each ridge is lofty, and impresses one with its greatness. Who can adequately describe the combination of the whole? Their shapes were wonderfully fair; their combinations and massings were strangely picturesque. No finer rocks, no masses of such surpassing grandeur, have I seen in any of the countries which I have visited."

And in notes of a journey made in 1877 by the Rev. J. Richardson to the south-west provinces, he says of the Isàlo mountains, "they form a most conspicuous land-mark to the west, and are different from all the mountains I have seen in Madagascar. I counted no less than fifty distinct peaks or distinct portions of the range, many of them being conical, like a map of the comparative heights of the mountains of the world." Further on, Mr. Richardson says that the illustrations given in the *Art Journal* of 1877 of the grand scenery on the line of the Pacific Railway are strikingly similar to that of the Isàlo peaks and passes, both in their wonderful effects of colour and in their magnificent and sometimes grotesque outlines.

To these extracts may be added another from the writer's pamphlet entitled *South-east Madagascar*, in which the mountains in Southern Bétsiléo are thus described: "The grand and varied forms of the mountains all round the plain of Tsiénimparihy filled one with an exultant kind of delight.

To the south is a crowd of mountain-tops, peak behind peak, with the greatest variety of outline; one has the appearance of a colossal truncated spire; another has a jagged saw-like ridge; another is like a pyramid with successive steps; and another like an enormous dome; but the varieties are endless, and as I passed along, the combinations of the giant masses of bare granite changed every minute. Their summits were never long free from clouds, and the changing effects of sunlight and cloud shadow could only have been caught by a rapid use of photography. These hills were more like those round Port Louis in Mauritius than any I have seen elsewhere in Madagascar, but were far finer; and more varied and grand than anything I have ever seen either in Madagascar or any other country. The summits of many of the peaks must be at least 3000 feet above the plain. These 'everlasting hills,' these 'strong foundations of the earth,' recalled many of those exultant passages in the Psalms and the Prophets which speak of Him whose 'righteousness is like the great mountains.' "

The *River*-names in Madagascar next claim a little notice, although they are less striking in their descriptive character than we have seen the hill-names to be. A glance at a good map of the island shows that the largest rivers flow to the west, the water-shed being comparatively near the eastern coast, so that, except the Mangòro, few very large rivers flow into the Indian Ocean; but there are a great number of small streams, many of which have cut deep gorges in the chains of hills, and are broken by numerous cataracts and falls. Scenery of great beauty, and endless combinations of wood and rock and water are found in these parts of the island. Two words are used for 'river' in Malagasy: *réniràno*, which is literally 'mother of waters,' and *ôny*, a word which, it will be seen, is frequently combined with others in forming river-names. (This latter word is probably Malayan in origin, and is most likely the same as the Malayan *sugnie*, a river; *s* being in both languages a very loose noun prefix; *u* is the Malagasy *o*; and the coast *n* is nasal and equal to *gn*.)

Descriptive epithets of natural features are of course found in a good many river-names, as in Onibé and Onivé 'Big-river,' Andrànobé 'Much-water,' Lémpona 'Concave' or 'Hollow,' Ampòntàny 'In-the-heart-of-the-land,' Ampivalànana 'At-the-descending' (water), and Andrànòmavo 'Brown-water.' We also find Onimainty and Onifòtsy 'Black-river' and 'White-river,' Onilàhy 'Male-river,' and Imaintinàndro 'Black-by-the-day' (?). The power of some small streams when swelled by sudden and heavy rain is noticed in such names as Kélimahéry 'Little-(but) strong,' Kélilàlina 'Little-(but) deep;' the difficulty of fording them in Fitamalàina 'Unwilling-ford;' the noisy character of some, in Andriamamòvoka 'Dust-raising-prince' (probably alluding to the spray or mist caused by the rapids or falls); the broken channels of others in Imànandriàna 'Having-cataracts,' while another bears the ominous name of Mātiandràno, *i.e.* 'Drowned.' The largest river in Madagascar is the Mania, a word meaning 'To go astray,' and called in the lower portion of its course Tsiribihina, *i.e.* 'The unfordable,' so it is said, but probably meaning 'The impassable.' Of this river Capt. Larsen, of the Norwegian mission-ship, says he believes that it brings down more fresh water than the Ganges; at its mouth the sea is fresh three miles from land.

The names of *Animals* are applied to a few Madagascar rivers, as in Màmba 'Crocodile' (almost every river swarms with these reptiles), Ombifòtsy 'White-ox,' Ambòrompòtsy 'At-the-White-bird' (an egret), Antànandambo 'Wild-hog's-foot' (*lit.* 'hand'), Sàhalambo 'Wild-hog's-field,' and Sàhanamàlona 'Eel's-field.' This word *sàha* 'field,' is found in some other river-names, as Sàhasàrotra 'Difficult-field,' Sàhadimby 'Spacious-(?) field,' or perhaps 'Ox-field,' and Isàhanònja 'The-field- (or place) of-waves;' also Sàhafilo, *filo* = 'needle,' or possibly *filao*, name of a fish.

Ambàto 'At-the-stone,' is found in several river-names, as well as in those (as already seen) of mountains and towns; in these cases it probably refers to some hill or rock where the stream takes its rise or near which it flows, or possibly from its rock-impeded channel. Thus we find, Ambàtolàmpy

'At-the-rock,' Ambàtomiàdy 'At-the-fighting-stone,' Ambàtomainty 'At-the-black-stone,' and Ambàtotsipàhina 'At-the-kicked-stone' (probably with some reference to giant legends). One river is called Ankàzotsipihina, 'At-the-ruled-(or straightened) tree,' another is called Fantàra, a name also given to meteoric stones, and another is Varàhina 'Copper.'

As with mountains, so also a few rivers have names referring to persons; two or three have the personal prefix Andrian-, as Andriambilàny, and Andriaménakély 'Prince-of-the-estate.' One is curiously called Ikòtoràtsy 'Bad-boy,' another, Zànakòlona 'Son-of-men,' and another, Andrànonandriana 'At-the-prince's-stream.'

It must be said, however, that the above examples include (excepting the Mania and the Onilàhy) few of the largest streams of the island, such as the Bétsibòka,¹ with the Ikiòpa, the Mangòro, the Matsiatra, the Sofia, the Mānanàra, and Mānanjàra² (there are several examples of these two names), the Māhajilo,³ the Sisàony, and many others, the meaning of whose names is obscure. We probably need a fuller acquaintance with dialects other than the Hova to understand many of the names applied to rivers. In the name of the Mātītānana, *i.e.* 'Dead-handed,' a S.E. coast river, a piece of legendary history of a giant having thrown his hand across the stream at an enemy, is said to be preserved; but it is probable that the story has been invented to account for the name. In some portions of the east coast of Madagascar the names of tribes and of the rivers flowing through their territory are identical, and it is often difficult to say whether the people took their name from the river, or *vice versa*. Curious superstitions cling to some of the rivers, *e.g.* of the Matsiatra in Bétsiléon, Mr. Shaw says, it is "a splendid river, though on account of the superstition of the people deterring them from putting a canoe upon it, it is one of the greatest obstacles in travelling to and from the capital in the wet season. In one itinerating journey, the

¹ *Lit.* 'Many-not-lepers.'

² *Lit.* 'Having-a-share.'

³ *Jilo* is 'sharp-pointed.'

only way of getting the writer's goods across was by balancing them upon the native water pitchers, a man swimming on each side propelling the cranky vessel forward."

The *Lake*-names in Madagascar will not detain us long, as they are very few in number for so large an island. The largest one, of Alaotra, in the Antsihànaka province, has already been mentioned as probably embodying one of the few Arabic words in Malagasy place-names. (It will be remembered that the allied word 'Laut' is largely used for 'island,' i.e. 'sea-surrounded,' in the Malayan archipelago; as Timor Laut, etc.) The next in size is Itàsy, whose name at first sight would mean 'shallow,' the word *tàsy* being applied chiefly to plates and dishes. It is said that this lake is of recent formation, at least tradition goes back to a time when it is said to have been formed by the breaking down of some embankment by a Vazimba chieftain. As, however, a considerable stream, which in the rainy season forms a grand waterfall, always issues from Itàsy and forms the river Lilia (a word of unknown meaning, to myself, at least), this seems a little mythical. In a map of the lake made by Mr. W. Johnson (see *Antanànavàro Annual*, No. i. 1875), every bay and division of it has a separate name applied to it, a proof of the minute distinction by the Malagasy of places by giving appropriate names.¹ The full name of the lake is Itàsi-hànaka, the latter word being a root signifying 'to run out as a liquid,' as ink on blotting-paper, for example; the word is also used as a synonym for others meaning lake, pool, etc., but is not much employed. This word is also found in the name of a northern central tribe, the Sihànaka, probably from the character of the country they inhabit, with extensive marshes, and the lake Alaotra, just mentioned, in its north-east corner. It is worth notice that the word *tàsy* is found in several of the Malayan island dialects, and there means 'sea.' A lake in the province of Pahang in

¹ These are: (1) Taràzo 'Hereditary(?)'; (2) Ampéfy 'At-the-embankment'; (3) Kavanta, possibly 'Opening,' as this is the point where the river issues from the lake; (4) Ambàvanandriana 'At-the-prince's-mouth, or opening,' a strait between broad reaches; (5) Lohòloka, meaning doubtful; (6) Anjiva, ditto; (7) Fitandambo 'Wild-hog's-ford.'

the Malay peninsula is called *Tassek Bera*, evidently the same word as in the Malagasy. A small lake south-west of Ankàratra is called Vinàniòny; *vindny* is a word frequently used on the east coast for a river-opening through the bars of sand which partly block up the mouths of most of them, and means 'breach,' 'irruption.' On the south-west coast are two lakes called Heòtry (or Hoétrý) and Tsimànampét-sòtse, but the meaning of neither of them is clear.

On the eastern coast of Madagascar is a remarkable chain of coast lakes or lagoons, into which the rivers fall. These have doubtless been formed by the incessant strife between the rivers and the ocean, for there is a constant heavy surf raised by the south-east trade-wind. So nearly continuous are these lagoons that by cutting about 30 miles of canal to connect them, an unbroken water-way of 260 miles in length could be formed along the eastern coast. These lagoons are distinguished by separate names, as Nòsibé, Iràngy, Rasòabé, etc.

There are two or three examples of small but profoundly deep lakes formed in the extinct craters of some of the old volcanoes. One of these, Trétriva, is said to be unfathomable, and is the traditional abode of the Fanàny, a seven-headed dragon or monster, about which marvellous stories are told. (See *The Great African Island*, p. 276.)

We now turn to the last division of the subject, that of the names applied to *Towns and Villages* in Madagascar.

Before giving a few examples of these under the different classes into which the mountain-names have been divided, there are two or three points which should be kept in mind in considering town and village names found among the Malagasy. The first of these is the fact already mentioned in speaking of the hill-names, viz. that on account of the ancient practice of the interior tribes of building their villages on the summits of hills and mountains, in very many cases it is impossible to distinguish exactly between what are strictly the names of hills and what are those of the villages. It is possible therefore that some of the examples already given of mountain-names may be names really applied to the settle-

ments formed on their slopes or loftiest points ; while, on the other hand, it may be the case that some of the town or village names to be presently mentioned are really those of the hills on which they are built.

Another point which should be borne in mind is, that while in the central and eastern provinces the population has a stable settled character, having remained probably for centuries in many of the towns or villages originally founded by their ancestors on their first occupation of the country, those on the western side, on the contrary, the Sàkalàva tribes, are much more nomadic in their habits. They do not practise agriculture so much as the other peoples ; rice, which, in the wet method of culture, as followed by the Hova and Bétсилéo and east-coast tribes, requires a good deal of earth-work, embankments, aqueducts, etc., is little used by them ; and they are more exclusively pastoral, keeping large herds of cattle. Besides this, their superstitious fear of death, or rather of some malign influence exerted by the spirits of the departed, leads them, it is said, to break up their villages when a death occurs, so that their settlements must be more like camps than villages, properly so called. The Sihànaka have the same superstition, but they avoid most of the inconvenience by removing any one who appears dangerously ill out of the village, and placing him in a hastily-constructed hut, which is afterwards pulled down and left to decay. We shall therefore probably find little of interest in the village-names of the Sàkalàva. There is, however, this noticeable point in the principal names, whether of towns or geographical features, all round the island, that the majority of them are distinctly recognizable as containing roots which are Malagasy as spoken by the Hova, and thus they confirm the fact, supported also on other grounds, of the essential unity of the Malagasy language, notwithstanding various dialectic differences.

One more point may be here mentioned, viz. that in many places there occurs a rather perplexing duality of names, arising from the fact that the Hova, when forming military posts for the maintenance of their supremacy over various

parts of the island which they have conquered, have generally given them a name differing from that of the native village on the same site or close to it. These latter usually retain the original appellation, so that sometimes a stranger is puzzled to understand where he is going, or what place the people are speaking about.

A word or two may be said first about the capital and chief towns of Madagascar, before proceeding to classify the smaller towns and villages according to the divisions already observed in other place-names. The name of Antanànarivo, the capital city, signifies, somewhat in an Oriental vein of exaggeration, 'The city of a Thousand,' that is, no doubt, homesteads or compounds, which clustered probably for a long time as detached settlements round the slopes of the long steep ridge on which the city is built. There are no street-names in the city, indeed there are only three or four streets or principal roads through the dense mass of houses, but the position of most houses is ascertained tolerably exactly by the numerous names which are given to different portions of the varied and broken ground over which the capital extends, every prominent hollow or slope or level portion having some special and often very appropriate name. Thus we find Fàravòhitra 'Last-village' (or hill), at the northern extremity, and Ambòhipòtsy 'White-hill,' from the white soil of that part, at the southern end of the ridge; while Ambòhimitsimbina 'Hill-of-observation' (or attention), is the highest point. Then there is Antsàhatsiròà 'Not-two-fields' or valleys, a steep descent near the centre; the precipices of Ampàmarinana, 'Hurling-place,' the Tarpæan of the capital, on the western side of the hill; the open triangular space of Andohàlo, the coronation ground and place of public assemblies, on the upper part of the city; and the level square plain of Imàhamàsina 'Place-of-consecration,' at the foot of the hill to the west, where military reviews take place and where some of the sovereigns were publicly recognized by their subjects. Near this is Anòsy 'At-the-island,' an artificial lake with a small island in the centre. (Each royal house has its proper name, as Manjàkamiàdana 'Reigning-

peacefully,' Tràno-vòla 'Silver-house,' Màoàndro 'Sun,' Manàmpisòa 'Adding-good,' etc.) In other parts of the city are Ambòhitantély 'Hill-of-honey,' Ambàtonakànga 'Guinea-fowl-stone,' Ampàribé 'Much-sugar-cane,' Anàlakély 'Little-wood,' Zomà 'Friday,' the great market-place, so called because the market is held on that day; etc., etc. South-west of the city is a large timber palace which was built by Radàma I. on the site of a hill which he partly levelled, and called Isoànieràna 'Good-for-inquiry,' or consultation, *i.e.* a convenient place where he might hear complaints and dispense justice. To the east of the capital is Ambàtoròka 'Craggy-rocks,' a rough piece of ground covered with boulders, and a former place of execution; further south is Mahàzoarivo 'Having-a-thousand;' while to the west is a rounded hill called Ambòhijànahàry 'God's-hill;' and stretching for many miles west, north, and south is the immense rice-plain of Bétimitàtatra 'Great-undivided,' a name evidently given before its enclosure and cultivation, for it is now *much* divided by *tàtatra* or water-channels.

Ambòhimànga 'Blue-hill' (or town), is the ancient capital, eleven miles north of Antanànarivo, and probably so called from the mass of blue basalt which forms the highest point of the triangular hill on which the town is built. The slopes are entirely covered with woods, which form a refreshing contrast to the generally bare and treeless character of the greater portion of Imérina. As at Antanànarivo, various parts of the more ancient capital are distinguished by special names, as Amboàra 'The fig-tree' (*voàra*), Ambàtomitsàngana 'The standing-stone,' Antsàhamànitra 'The fragrant-field,' Andàkana 'At-the-canoe,' etc. Ambòhimànga is also the name of the chief town of the northern Tanàla, or forest people, and is given to some other towns as well, both in this form and in that of Ambòhimàngakély (*kély*=little). The capital of the Bétsiléo province has a name probably given by the Hova on their conquest of the country—Fianàrantsòà 'Good-learning;' it is a town with about 6000 or 7000 inhabitants.

The chief port of the N.W. coast of Madagascar, the town

of Mojangà (incorrectly called by Europeans and on charts Majunga) derives its name from "a colony of Swahili-speaking Arabs, who were the first occupants of the site. They found, so say their descendants, the shore lined with flowering shrubs, which, as the most remarkable thing about the place, led them to call their village *mji-angaia* 'the town of flowers.'" This was subsequently corrupted to Mojangà. The Bay of Bembatooka takes its name from a small village formerly existing on its shores, and called Fòmbitòka=*fòmby tòkana* 'One-rofia-palm,' and corrupted by foreigners into Bembatooka.¹

Turning now to the names of *Towns and Villages* generally, we find, as with those of the mountains, that natural features have frequently suggested their appellations. As already noticed, the building of all ancient towns of the interior on the summit of hills has made it difficult, if not impossible in many cases, to be sure whether the name given to a town on a hill is not more strictly that of the hill itself. So that, as with mountain-names, we also find the ideas of 'height' in a few town-names; as Avomalàza and Avomànitra (*avo* 'high'), Ambòdinàmbo 'At-the-foot-of-height,' Ambònìlòha 'Upon-the-head;' that of 'ascending' in Fiakàrana and Iakàranòsy 'Goat's-ascent'; and that of 'lifting up' in Ambòhimiàrina, Manàrinàrina, etc. The two words for rock, *vàto* and *hàrana*, form frequent combinations in village-names from the presence of bold rocks and precipices near many of the places thus named; as Ivàto, Ivàtovàvy 'Women's-stone' (probably from there being near to it one of the stones resorted to and anointed by women, from a belief in its virtue to give them children), Ambàtosà, Ambòdivàto 'At-the-bottom-of-the-rock,' Antòngombàto 'At-the-foot-of-the-rock,' Ivàtofòtsy and Ambàtofòtsy 'At-the-white-rock,' Ivàtolàvo, Ambàtofisaka, Ambàtotòkana 'At-the-solitary-rock,' Ampàrafàravàto 'At-the-stone-bedstead;' this is one of the three Malagasy towns to which entrance is forbidden to Europeans by an article in the 1865 treaty, since they

¹ See paper by the Rev. W. C. Pickersgill, in *L.M.S. Missionary Chronicle*, Oct. 1882, p. 323.

were then the seats of the chief idols. In the Sihànaka province is a town called Ampàrafàravòla 'At-the-silver-bedstead,' and there are several Ambàtomalàza 'Famous-stones.' Then there are found Iharàny, Ankàranila, Ankàramalàza, and Ankàratsinànana. The colour of the soil also gives frequent names, as Antànifòtsy 'White-earth,' Ambòhipòtsy 'At-the-white-hill,' Ankàdifòtsy 'At-the-white-fosse,' Ampàsिमéna 'At-the-red-sand,' Ivòhiména 'Red-hill,' etc. We also find Ambòhidrà 'Two-towns,' and Ifitobòhitra 'Seven-towns.'

Trees and woods give many town-names, as Ambòlobé 'Much-bamboo,' Anakakòndro 'At-the-plantain-shoots,' Ambòdirofia 'At-the-foot-of-the-rofia' (palm), Antapiabé 'Much-*tapia*' (a tree with edible fruit, and used for silkworm culture), Ampàngabé 'Much-fern,' Ivòhidröy 'Bramble-town,' Ambòatavò 'At-the-gourds,' Ankàzomàsina 'At-the-sacred-tree,' Iàlamalàza 'Famous-wood,' Anàlamàizina 'At-the-dark-wood,' Ambàniàla 'Below-the-wood,' Béràvina 'Much-foliage,' Tàmponàla 'Top-of-the-wood,' etc. The pleasant situation of many villages gives appropriate names to not a few of them, which contain the words *tsàra* (good) and *sòà* (pleasant), the latter of which is especially frequent, as Antànantsàra, Ambòhitsàra, Itsàrafidy 'Well-chosen,' Itsàrahonénana 'Good-for-dwelling-in,' Ambòhitsòà, Ambàtosòà, Ambàlasòà, Antsàhasòà, Ikianjasòà, Isòaririnana 'Pleasant-in-winter,' and Sòamònina 'Pleasant-to-dwell-in.' The latter word also comes in frequently in villages called Soàvina and Soàmànana; one is termed Sòatsimànampiovàna 'Unchangeably-pleasant,' and the same idea of security is expressed in Fiadànana 'Peace,' and Mähavélona 'Causing-to-live.'¹ The open position of many villages, exposed to sunlight, gives a name to several; as, Mäsoàndro, Bémäsoàndro 'Much-sun,' and Ambòhibemäsoàndro; and the extensive prospect from others gives their names of Mähatsinjo 'Able-to-overlook,' and Tsinjoarivo 'Overlooking-a-thousand.'

New settlements, now probably very ancient (like our own

¹ I remember this name, a rather common one, is that of one of the filthiest villages I ever stayed a night in; the whole place being a foot deep in cowdung.

Newports and Newcastles), have left their traces in Ambòhibào 'Newtown,' a very common village name in Imérina; in Antòby 'At-the-camp,' and Andrànovào 'At-the-new-house'(?); while the advance of settlers upon ground previously unoccupied seems to have given a name to the many places called Ambòhimandròso 'Progressing-town,' and Mandrosà 'Advance' (verb imp.). Many village-names include the Malagasy equivalents for our Anglo-Saxon words *ton*, *ham*, *burgh*, *bury*, etc., and the Danish *by* and *thorpe*, in the words *ràla* 'a homestead,' as Ambàlavòtaka, Ambàlatàny, Ambàlavòla, Ambàlasakày, and Ambàla, etc.; in *hàdy* 'a fosse,' one at least of which surrounds every old village (and homestead), and very frequently several deep trenches are found one within the other; as Ankàdibé, Ankàdisàrotra, Ankàdimainty, Ankàdifòtsy, Ambòdihàdy, and Ankàdivòribé 'Big-round-fosse' (the ordinary name for a country house is *hàdivòry*); and in *sàha* 'field,' as Antsàhapétraka, Antsahafilo, Antsàharòalòha 'Two-headed-field,' Isàhafàry 'Sugar-cane-field,' and Isàhabàto 'Stony-field,' etc. There are a very few village-names referring to roads, or rather paths, as Antsàmpanimahàzo, freely translated, 'You may choose your path,' applied to two or three places at the junction of cross-roads; another bears the (probably often too appropriate) name of Ampòtaka 'In-the-mud.'

From the situation of many Malagasy villages on the banks of rivers are derived several descriptive names, as Antsàmpandràno 'At-the-branching-of-the-waters,' Ambòdiriana and Ambòniriana 'At-the-foot-of-' and 'Upon-the-cataract,' Ifàrahàntsana 'Last-rapids' (on the river Ikiòpa), Isaràhanòny (perhaps) 'At-the-separating-of-the-streams,' Andrànòmàndry 'By-still-waters,' Amparihy 'At-the-lake,' Andòhatànjona 'At-the-head-of-the-promontory,' and Imàvoràno 'Brown-water;' while we find an exact equivalent of 'Oxford' in Ampitànòmby, and an approach to 'Cambridge' in Tetézambàto 'Stone-bridge.' One name seems to complain of a lack of moisture, Itsimìsiràno 'There's-no-water!' On the sea-coast several village-names include the word *vinàny* 'river-mouth,' as Ivinàny, Vinànionny, etc., and also Màson-

dràno, a word of similar meaning, found both in this form and in that of Mäsondrànokély.

A considerable number of village-names include the word *nòsy*, which is generally translated 'island;' it appears, however, in many cases to mean, more exactly, a rising ground standing up from marshes and rice-fields, and more or less surrounded by them, a very near parallel to our Anglo-Saxon *ea* or *ey*, 'an island,' as in the names Chelsea, Thorney, Putney, Chertsey, etc.¹ Thus we find Nòsivàto 'Rocky-island,' Nòsimanjàka 'King's-island,' Nòsisòà, Nòsivòla, Nòsipàtrana, Nòsikély, Anòsivàrika, Nòsizatò 'Hundred-isles,' Nòsiarivo 'Thousand-isles,' and, simply, Nòsy or Anòsy.

In the central district of Imérina a number of village-names include that of the province, with some additional descriptive word; these are probably, in some cases at least, memorials of certain additions of territory or change of boundary; thus we find Imérimandròso, Imérinavàtratra, Imérintsiadino, Soàvinimérina, and Imérinarivo. The western division of Imérina, the Imàmo district, also gives a name to a few villages, as Arivonimàmo and Tsinjòvinimàmo. The habit of the central Malagasy of assembling at large open-air markets for the sale and purchase of every kind of native product gives a name to many villages near such markets, according to the days of the week on which they are held. So we find numerous places called Alahàdy (although markets are no longer held on Sunday in the central provinces), Alatsinainy, Talàta, Alarobia, Alakamisy, Zomà, and Asabòtsy.

As with mountain-names, so also in those of some towns and villages, the words for various animals enter into their formation; the words *màmba* and *voàdy* 'crocodile,' *dinta* 'leech,' *ambòà* 'dog,' *òsy* 'goat,' *fòza* 'crab,' *hàla* 'spider,' and many others, all occurring; thus, Màmbazatò 'Hundred-crocodiles' (no exaggeration this in numberless places); less definite, but very suggestive, is Màrovoàdy 'Many-crocodiles,'

¹ Cf. *Words and Places*, p. 367 et seq.

a Hova post and Arab settlement near the mouth of the Bétsi-bòka river; Mäsomboà, Antsàhadinta, Ambòatàny, Ambòhitròsy, Antsàhamàrofòza, and Antòhokàla. Most frequent are those compounded with *òmby* 'ox,' as Màmìòmby 'Sweet-to-oxen,' probably referring to good pastures (Sòaronòno 'Good-(for) milk,' is probably of similar meaning to the foregoing), Antàndrokòmby 'Ox-horn,' Lòhaòmby 'Ox-head,' Ambòhitròmby 'Ox-town,' and Ambòsitra¹ 'At-the-ox' (or oxen). *Fàhitra*, the word for the sunken pen or fold in which cattle are kept and fattened, enters into many village-names, especially places where these *fàhitra* were numerous or of great size, or made by some famous chief of former times; thus, Ampàhitra, Ampàhitrizana, Ambòdifàhitra, Ampàhimànga, etc. Here we have a similar use of the word to that in our English place-ending *by* or *byr* (cf. Scot. *byre* 'a cow-stall'). A few villages take their name from some prominent or numerous tree or plant growing plentifully near it, as Ambòatàvo 'At-the-gourds,' Ambòasàry 'At-the-lemons,' etc.

The most common village-names of the class already grouped as *personal* are those derived from chieftainship; and our English Kingstowns, Kingstons, and Princetons find a Malagasy parallel in numerous places called Ambòhiman-jàka, Ambòhitrinimanjàka, Ambàtomanjàka, Manjàkanan-driana, Miàdamanjàka 'Reigning-peacefully,' Ambòhitrandriana, Ambàtonandriana, and Ihàranandriana; some of these being probably the chief's village in earlier times. Of somewhat similar meaning is Ikiànjamalàza 'Famous-courtyard,' and Ikiànjàsò; while the principal village of a former petty state, often a very little place, is remembered in many an Ambòhibé 'Big-village,' and Ivòhibé, and in frequent Antànamalàza and Ambòhimalàza, 'Famous-towns' and 'villages.' We also find Ambòhitòmbo 'Lord's-town,' and Ambàlampitàrà 'Judge's-homestead.' Other villages preserve the name of a former famous king or chieftain, as Ambòhidrabiby,²

¹ *Vòsitra* is the ox, strictly so called; *òmby* being a wider word for cattle generally; hence *òmbilàhy* 'a bull,' *zànakòmby* 'a calf,' etc.

² Rabiby was an early king in Imerina, who is said to have slain an enormous wild-boar; and he is also remembered as the first who discovered that beef was

Ambòhidratrimo, Ambòhidrapéto,¹ Ambòhidratàmo, Ambòhidramijày, and Ambàtondrazàka.²

Some tribal divisions or boundaries are probably preserved in the many village-names which include the word *arivo* 'thousand,' *zàto* 'hundred,' and *fòlo* 'ten,' as, Ivòhitrarivo, Ambòhipòloarivo (10,000), Soàvinarivo, Ihàrinarivo, Ambòhijàto and Ambijàto, and Ampòlo. Tribal names are given to some villages, which were formerly perhaps their chief settlement; as, Anjànadràlànbo (the Zànadràlànbo are the sixth and lowest rank of *andriana*, the noble or royal clans; Ralànbo, their ancestor, was the same as the Rabiby just mentioned, and was so called from his slaying the wild-boar or *lànbo*); and Ambòdilàlangina (the Làlangina are the easternmost division of the Bétsiléo people). Bits of local and tribal or family history are probably fossilized in such names as Itélolàhy 'Three-men,' Ivòhidràivo 'Raivo's-town,' Imàrovàvy 'Many-women,' Imàrozàza 'Many-children,' Fierénana 'Dividing-place,' Fieràna 'Refuge,' Isòanieràna 'Good-for-inquiry' (an open-air court), Ampihàonana 'Meeting-place,' Ambòhidrày 'Father's-village,' Ambòhijàtòvo 'Youth's-village,' Ambòhijànaka 'Children's-village,' Ifénovahòaka 'Full-of-people,' Tsàrahàvana 'Good-(by) relations,' Itsiàzombazàha 'Not-taken-by-foreigners,' etc., etc. Old sacred places and shrines are indicated by many an Ambòhimàsina and Ambàtomàsina (*màsina*, sacred), and perhaps in Ambòhijànabàry and Ambòhitràndriamànitra 'Creator's,' and 'God's-town.' Sacred and venerated trees (*hàzo*) also give a few village-names, as Ankàzomàsina and Ankàzobé.

Into the other two divisions in which Malagasy town and village names may be classed, viz. those of "doubtful" or "obscure" meaning, it is unnecessary to enter here, for the reasons given in speaking of the names of mountains and rivers. Some local allusions, obvious enough on the spot,

good to eat. This tradition is probably true so far as it recalls an early period when the ox was considered a sacred animal, and its flesh was only eaten as part of a religious service.

¹ Rapéto is said to have been a giant, and to have performed marvellous feats of strength.

² The chief town of the Sihànaka province.

would probably explain many of the first class of names; while fuller knowledge of old and obsolete or provincial Malagasy, and careful inquiry among the natives, will be required to elucidate the meaning of many of the second of these classes. I hope to be able, as opportunity offers, to continue inquiry and research in this direction when again in Madagascar, as I am satisfied that much light may be thus thrown on obscure points of Malagasy history and tribal migrations, as well as on philology, by a fuller knowledge of the old words embodied in place-names. The native language is so flexible and euphonious that new words can be readily coined, and new place-names are, in fact, constantly being formed.

Before concluding this paper, a few words must be added upon one other class of Malagasy place-names yet unnoticed, viz. those of *Provinces and Districts*. Here, however, a difficulty occurs in distinguishing many of them from those of the tribes who inhabit these various regions; since in many cases it is difficult to say whether the people take their name from the country they live in, or whether the country is called after the people. So that here the study of place-names is almost inseparable from that of personal, or rather, tribal, names. In other cases, as on the coast plains, river-names and tribal-names are equally difficult of exact discrimination, that is, as regards the priority of the two. These points cannot be now fully discussed, but a few examples may be given.

The meaning of the name of the central and leading province of Imérina is obscure (to myself at least); the district is also occasionally termed Ankòva, from its Hova inhabitants. Among the subdivisions of Imerina are Vàkin-ankàratra, the district 'Cut-off-(lit. "broken-") by-Ankàratra' (mountains), Vakintsisàony 'Cut-off-by-(the river) Sisàony,' Imàmo, Vònizòngo, Valàlafòtsy 'White-locusts' (a tribal name), and to the north, Avàradràno 'North-of-the-water,' Anàtivòlo 'Among-the-bamboos,' etc. But the smaller district names are very numerous, and would require a separate article for their full treatment.

South of Vakinankàratra is the Mānandriana district, the northernmost division of the populous Bétсилéo province, home of the 'Unconquered' tribe (so named, although they have been overcome by the dominant Hova); with the other subdivisions of Isàndra, so called from the river flowing through its centre, and this, again, traditionally said to be named after a Hova, one Andriantsàndra; Ilàlangina (literally, 'Quiet-road,' but there is probably some other meaning); and Iàrindràno 'There-is-water,'¹ probably from the numerous streams. Further south still is the Bàra country. In this province, with its widely scattered population, there appears to be necessarily a good deal of change in its place-names, since the numerous petty kingdoms or chieftaincies are, like many African kingdoms,² called after the names of the reigning chief.

On the eastern side of the island, beginning at the northern point, is the Ankàrana 'the Rocky' province, possibly taking its name from a remarkable rock fortress where the inhabitants have often held their own against an invading force.³ Coming south, are the districts of Vòhimàro 'Many hills' (?), the promontory sheltering Antongil Bay and called Maròà (in Hova this word is an imperative form meaning 'Be many,' it is said to be so called from a small river of the same name, possibly thus named from its sudden increase in the heavy rains of the wet season); and south of this, again, are a number of districts, some called after the principal town in them, some after the chief river, and inhabited by numerous tribes generally termed Bétsimisàraka, the 'Many-unseparated.' Inland from these is the Bètaniména country, 'Much-red-earth,' while the great marsh district—the Malagasy fen-country—around, but chiefly south, of the chief lake, Alaotra, is called Antsihànaka, the 'Lake-people's-district.' South of this is the long open plain between the two eastern lines of forest, and called Ankày, the 'Clearing,' from its comparative absence

¹ See Mr. G. A. Shaw's paper "The Bétсилéo Country and People," *Antanànarivo Annual*, No. iii. pp. 74, 76.

² E.g. Urambo, after Mirambo.

³ See *Antanànarivo Annual*, No. iii. p. 27.

of wood. Its inhabitants are called the Antankày, and also the Bézànozàno 'Bush people.' The south-eastern forest region is called the Tanàla country, 'home of the Foresters.' East of this again, on the coast plains south of the Bétsimisaraka district, are the regions occupied by the Taimòro tribe, a word of probably similar origin to an identical one used in the Melanesian islands, and there meaning 'the live sea,' because of the active surf. The Taimòro occupy a coast exposed to the full force of the S.E. trade winds.¹ Then come the Taisàka, the Taifàsy, and other districts. At the extreme south-east corner of Madagascar is the fertile vale of Ambòlo, 'At-the-Bamboos,' and the region occupied by the Tanòsy, or 'Islanders' (?); and proceeding round the southern point, and turning northward along the western side of the island, are the territories of the Tandröy, the Mäsikòro, the Vézo, the emigrant Tanòsy, and the Antifisherénana; and north of these is the extensive region, extending nearly to the north of the island, inhabited by the various tribes loosely called Sàkalàva, because conquered by a warlike people of that name. This conquering race formed two kingdoms, that of Ibòina to the north, and Ménabé south of it. The latter of these two words is probably the same as that used by the Hova to denote an estate held direct from the sovereign.

It will be evident therefore that to treat this division of Malagasy place-names completely, it would be necessary to combine with it an examination of tribal names; and perhaps this may be attempted at some future time, when our information on these becomes more full and accurate than it now is. Enough has probably now been said to show how full of interest the inquiry is, and how much light is thrown upon the mental character of the Malagasy, as well as on some other subjects, by the names they give to the natural features of the country, as well as to the settlements and towns they have formed over its surface. I have here but touched the fringe of the subject; and I earnestly hope that the publica-

¹ See *Antanànarivo Annual*, No. vi. p. 25.

tion of this first essay at the investigation of the wide field which is yet unworked will induce many Europeans in Madagascar—especially those who are resident in parts of the island away from Imérina—to pay closer attention to the place-names of the country, and so recover much of value and interest which lies hidden in these records of the early occupation of the great African island by its present inhabitants.

APPENDIX.—BÉTSILÉO PLACE-NAMES.¹

Among the most common and characteristic place-names amongst the Betsiléos are the following:—

Towns.—Ivòhibé, Ambòhibé, Ambòhimandròso, Mahàzoarivo, Vòhitrarivo, really Vòhitsarivo, Ivòhitròmby, really Ivòhitsaömbe, Ambòhitròmby, really Ambòhitsaömbe. The compounds with *-arivo* ('thousand') are very frequent as names of towns; e.g. Ivòhitsarivo, Mahàzoarivo (the ancient capital of the Isàndra province, where Andriamanàlina lived at the time of his famous negotiations with Andrianampòinimérina), Akàrinarivo, Ambòhimànarivo, Andràinarivo, Ilanjàinarivo, Tòmboarivo. As far as my own experience goes, towns with this noun of number (indicating great quantity or wealth of cattle, slaves, subjects, etc.) are or were invariably the seat of rather superior *tòmbo-ménakély* (i.e. feudal land proprietors), never, so far as I have seen, mere villages included in but not the capital of the *ménakély* (estate). Féoarivo appears to be an Ambàniàndro (a name given to the Hòva by the Betsiléos and southern tribes) name. There is one Féoarivo in the Màmàndriana province, but not in the Betsiléos proper, i.e. south of the Matsiatra river; and that one Féoarivo is a Government town, probably named, as undoubtedly many Government towns in the south were named (e.g. Fanjakàna and Fianàrantsòà), not by the aborigines but by the colonists from the capital. There is another between Ikàlamavòny and Modòngy; but there are too many runaway slaves and Hova there to make it a real Betsiléos village. The compounds with *-ony* are also characteristic. *Ony* in these words is not used as the equivalent for river; and, indeed, it is doubtful whether *rdno* (water) is not a more correct translation for that word at all

¹ This paper on the place-names of the southern-central province of Madagascar, the Betsiléos, is from the pen of my friend and brother missionary, the Rev. Charles T. Price, for several years resident in that part of the island, and which he kindly allows me to add to my own paper.—J.S.

times, the *ony* being simply the confluence of the *râno*. At any rate, in place-names *ony* means the confluence of the people, a large gathering, *profanum vulgus* of Rome, or *οἱ πολλοί* of Athens. Thus, Nasàndratsoñy (corrupted by Hova and Europeans into Nasàndratòny) is the place that was raised up, or built, by the multitude—a name easily understood by any one who has seen the large gatherings of people in this comparatively small village assembled by Ramàvo, a descendant of Andriamanàlina, and chieftainess there. Other instances are Ambòhitsoaöny, Ambàlamisaöny = the homestead where there is a gathering of people), and Tondròinöny. Either by the '-ony' or '-arivo,' or some other such addition, important towns generally have names far removed from the mean or common-place. One might be tolerably sure, for instance, that such a place as Ambòasàry or Itablana was not anciently of great importance.

Villages and homesteads.—Frequently such names begin with the contracted place-form of *vòhitra* or *vàla*, as Ambòhibàry, or Ambàlabé.¹ *Vòhitra* is a village or town, and although *vàla* is often used of a collection of houses numerous enough to be called a village, yet strictly speaking a *vàla* is a homestead, the equivalent in Imérina being *tambòho*. Our place at Fanjakàna, with its house and outbuildings, including kitchen, school-room, scholars' dwellings, etc., standing in a large garden, was correctly named Ambàtolàhinandrianisiàhana = 'At-Andrianisiàhana's-*vàtoldhy*,' or monument (not grave), which stood at the very gateway of the premises. But the place was usually spoken of as a *vàla*, occasionally as a *vòhitra*, and once I heard a native speak of going outside the compound, as going outside the *tandana*. This seems to indicate that there is no fixed law for the use of either word in forming place-names of villages or towns. Not so, however, with the prefixes I- and Am- or An-. I am not referring to the simple omission of the I-, as in Fianàrantsoà for Ifianàrantsoà, which is a mere matter of habit and fashion; but to the non-interchangeability of the simple form with or without the I-, and the form with the Am- or An-. Vòhibé or Ivòhibé, for instance, is not the same as Ambòhibé, nor Ivòhipòtsy as Ambòhipòtsy. Vòdisàndra is the mouth of the Sàndra river; Ambòdisàndra is the name of the adjacent village. Vàtolàhinandrianisiàhana is the name of the deceased judge's monument; but it would have been incorrect to call our place Ivàtolàhinandrianisiàhana; it was *Ambàtolàhinandrianisiàhana*.

¹ Ambàlavào is one of the most common, wearisomely so.

I have heard *tendrombôhitra* used for *vôhitra*: is it not possible that the true *vôhitra* was situated at the *tendrombôhitra*? that Ivohipotsy, for instance, was the village at the top of the hill Ivohipotsy, and Ambohipotsy the village on the hill-side?¹

Physical features.—The compounds with *hàrana*, a precipice, are very common in the more precipitous parts of the Bêtsiléo province. Names with this compound invariably represent faithfully the nature of the place. Instances are, Ankàramalàza (at least two in the Iàrindràno, and one in the Ilàlangina), Ankàranòsy (the ascent to which might well be termed a 'goat-track,' *ôsy*=goat) and Ankàratsinàna. More common still are names recording other physical features of the locality, as Ivàtoàro, Ambàtorény, Ambàtosàa, Vàtomitàtana, Ambàtoména, Andrànòvorivàto, Vàtofòtsy, Anjòlobàto, Ambàtomainty, Ambàtofinandrahana ('the chiselled rock'), Ambòhimiàrina (which is 'perched up' near the crest of a high hill), Midòngy (on a hill in the south), and Modòngy (in the west; a cloud seems to be always sullenly² frowning round its overhanging brow), Ilamòsina, Ampàsina (=Ampàsika), Vinàny and its numerous compounds. There are at least three places in the Bêtsiléo named Andrainjàto, one in each of the three provinces, and each of them rocky hills. That in the Isàndra is a prominent rather than lofty ridge, on which are many rocks curiously piled together. It is, and I believe always has been, uninhabited; but there are many other named places quite desolate. In the Sàndra there is a current proverb, as follows: "*Andrainjàto ro avo-tany, nasandratsa ny bitsika: ko ny bitsika ro be-loha, sasatsa ny nitao-tane,*" i.e. "Andrainjàto is lofty ground because raised by the ants; and the ants have big heads because they are weary with carrying earth."

The *plants* most plentiful or peculiar to the neighbourhood appear frequently to give the name to a village or uninhabited hill, e.g. Ikàndo (where the wild plant *kàndo* freely grows), Ambòasàry, Ankàzosàràvina, Sàkaviro (? a transposition of *Sàkarivo*=ginger), Béanana, Andrànòròndrona, Ankàfotsa (*hàfotra*), Anàhimalémy, Vàhambé, Ankàfina, Sàha, Sàhamalàza, Bésakòana. There are two towns, both in the heart of the sweet-scented forest, named Ivòhimànitra (*mànitra*=fragrant); but one at least of these must be in the Tanàla (forest region).

Animals are represented in such names as Alàmbomandrèvo, Iàvonòmby, Vòhitròmby, Màroparàsy, Bévòalàvo, Iàrinòmby, Itàò-

¹ On this point, cf. p. 181, *anté*.

² *Dongy*=sulky, morose.

lana, Kalalao, Ankàranòsy. Ambòhitsandràzanimàmba is not such an instance. The *màmba* or *vody*, with the Bètsiléo, is not only the crocodile, but the big, awe-inspiring man—king, chief, or governor—in any place; and Ambòhitsandràzanimàmba was so named when old Andriamanàlina, in dividing his inheritance among his sons, directed that one of them—probably the eldest—should leave the old Isàndra capital of Mahàzoarivo and reside at Ambòhitsandràzana. The *màmba* was to *miàndry fanjakàna* (guard the kingdom) there, and hence the name. When any of the family die, the body, in the course of the funeral ceremonies, involving a pilgrimage round the province lasting some weeks or months, is sure to lie in state for a time at Ambòhitsandràzana. The family tomb, and favourite residence of Rajòaka, the present prince and descendant of Andriamanàlina, is at Ivòhitsasàky (Ivòhitsisàky = the 'timid village'), so named because it lies completely hidden in a small wood at the base of the range of hills at the end of which stands Ambòhitsandràzana.

Farther on, under the same range of hills, is Isòrana, a village most of whose houses are built each on a separate boulder of rock of immense size, so that to get to a neighbour's house quite a perilous journey has to be made from one boulder to the other. In some cases, to get from one house to the next you have to descend from the boulder and pass through an immense cave under the cliff. There are two of these large caves; one would hold 1000 people, and the other was used for storing rice in the old days of civil war. They had a spring of water there also, if I am not mistaken. Other of the houses are situated between the foot of the cliff and the boulders, almost if not quite concealed from view from the high road. The houses being almost the same colour as the rocks, and being either perched aloft in most unlikely situations, or else hidden by the huge boulders scattered about before them, the village was analogous to Ivòhitsasàky in respect of its modest and retiring situation. Even if the village were observed, the inhabitants, in case of alarm, would not have been found—they would have *removed* by secret paths into the cave behind. This power of removing themselves may have been the origin of the name Isòrana, or Isòrane, as the pure Bètsiléo would have it. There is a proverb which runs: "Ivòhitsasàky ny añaty ala: ko Isòrane ny añaty vato," *i.e.* "Ivòhitsasàky is within the forest, and Isòrane is within the rock." The whole of the valley in which these two villages are situated, and at the southern end

of which Ambòhitsandràzana looks down from its lofty crag, is typical of the condition of insecurity in which, in former times, the Bétsiléo lived. Between Ivòhitsasàky and Ambòhitsandràzana the wall of rock which shuts in the valley on the west is cleft by a winding gully at right angles to the valley itself. On one of the steep sides of this gully, perhaps 100 feet or more from the bottom, the rock forms a natural ledge 30 or 40 feet wide, on which stands a single row of houses forming the village of Ivòhibasiana (*i.e.* 'the village which can (*only*) be shot at'—not reached in any other way). As you pass along the road in the valley this village is only perceptible from one particular spot, where, standing at exactly the right angle, you get in a line with that part of the tortuous gully in which the ledge is. Even then the path up to the village is unseen; for the ledge appears to terminate abruptly, high up above the valley, on that side from which you would approach it from the road.

It is worth while to remark that the word Bétsiléo would seem to be a Hova name applied loosely and ignorantly to any place or people south of the river Sisàony. Immediately south of Imérina comes Vakinankàtratra; then Mānandriana; and after that Bétsiléo proper—south of the Matsiatra river. But these Bétsiléo do not like to be so called; they prefer their own name, judiciously confirmed to them by the Queen in a *kabary* in 1873—Ambòhitròmby, or, more exactly and fully, Andriambòhitsaömbelàhy, which, if shortened, should be Andriambòhitsa. They have great wealth in cattle; though superficial observers and new-comers have denied this. The fact is that the pasture-land is getting less extensive in the central parts of the Bétsiléo, and that the wealthiest landed proprietors now keep most of their cattle in the extreme west, bordering on the Bāra country, where in one small village it is not at all uncommon to see 500 to 1000 head of cattle, all belonging to some rich man living far away to the east, who places his cattle in these roomy plains under the charge of herdsmen.

The tendency of the foregoing rambling notes, as will be seen, is to show that the place-names have an intimate connexion with the characteristics of the places themselves. Even now, with our comparatively slight knowledge of Bétsiléo history, the connexion between the names and the peculiarities or distinctive features of the places named is traceable in most cases.

ART. VII.—*The Namakkāra, with Translation and Commentary.* By H. L. ST. BARBE, B.C.S.

IN 1875, the Secretariat Press of British Burma printed a collection of six Pāli texts with a vernacular commentary and exposition. The fifth and most difficult, but, at the same time, the most interesting of all, is the one I am attempting to translate. The lack of critical editing and the general corruption of the text is sufficiently shown in the title *Namākāra*, which may stand either for *Namākāya* 'a collection of panegyrics,' or *Namakkāra* (Sansk. नमस्कार) 'Reverence, worship.' The first stanza is a curious example of archaic punning. This "ekatthá," or tautological repetition, as it is called by the learned author of the "Subodhalaṅkāra," is only permissible when it is desired to express fear, anger, or laudation. It is employed again in the 8th, 9th, and 22nd stanzas.

I may observe that the last five stanzas are evidently the work of a later writer.

NAMAKKĀRA.

1. Sugataṃ sugataṃ seṭṭhaṃ | kusalaṃ kusalaṃ jaham |
amataṃ amataṃ santaṃ | asamaṃ asamaṃ dadaṃ | saraṇaṃ
saraṇaṃ lokaṃ | araṇaṃ aranaṃ karaṃ | abhayaṃ abhayaṃ
thānaṃ | nāyakaṃ nāyakaṃ name ||

2. Nayana subhaga kāyaṅgaṃ | madhura vara saropetaṃ |
amita guṇagaṇādhāraṃ | dasabalam atulaṃ vande ||

3. Yo buddho dhitimāññā dhārako | saṃsāre anubhosi
kāyikaṃ | dukhaṃ cetasikaṇca lokato | taṃ vande nara
deva maṅgalaṃ ||

4. Battimsati lakkhaṇa citra dehaṃ | dehā juti niggata
pajjalantaṃ | paññā dhiti sīla gaṇogha vandaṃ | vande
munim antima jāti yuttaṃ ||

5. Pátodayaṃ pāladvākaraṃ va | majjhe yatīnaṃ laliṭaṃ

siríhi | punṇindusaṅkása mukhaṁ anejaṁ | vandámi sab-
baññum ahaṁ munindaṁ ||

6. Upeta puñño varabodhi múle | sasena máraṁ sugato
jinitvá | abojjhi bodhim aruṇodayamhi | namámi taṁ Mára-
jinaṁ abhaṅgaṁ ||

7. Rágádi chedámala ñāṇa khaggaṁ | satísamaññá bala-
kábhigáhaṁ | sílogha laṅkára vibhúsitāṁ taṁ | namámi
bhiññávaraṁ iddhupetaṁ ||

8. Dayálayaṁ sabbadhi dukkaraṁ karaṁ | bhavaṇṇavá
tikkamaṁ aggaṭaṁ gataṁ | tilokaṇáthaṁ susamáhitāṁ
hitaṁ | samanta cakkhuṁ paṇamámi taṁ mitaṁ ||

9. Tahim tahim páramisañcayaṁ cayaṁ | gataṁ gataṁ
sabbhi sukhappadaṁ padaṁ | naránarānaṁ sukha sambhavaṁ
bhavaṁ | namánamānaṁ jina pungaṁ gavaṁ ||

10. Maggaṅganávaṁ muni dakkha-náviko | íhá phiyaṁ
ñāṇa kareṇa gáhako | áruhya yo táya bahú bhavaṇṇavá |
táresi taṁ buddhaṁ aghappahaṁ name ||

11. Samatiṁsati páraṁ sambharaṇaṁ | varabodhi dume
catusaccadasaṁ | varamiddhigataṁ naraḍevahitaṁ | tibha-
vúpasamaṁ paṇamámi jinaṁ ||

12. Satapuññaṁ lakkhaṇikaṁ virajaṁ | gagaṇúpamadhim
dhiti merusamaṁ | jalajúpama síṭala síla yutaṁ | pathaví-
sahanaṁ paṇamámi jinaṁ ||

13. Yo buddho sumati dive divákaro va | sobhanto rati-
janane silásanamhi | ásinno siva sukhadaṁ adesi dhammaṁ |
devānaṁ taṁ asadisāṁ namámi niccaṁ ||

14. Yo páda paṅkaṇa-muduttalarájikehi | lokehi tíhi vika-
lehi nirákulehi | sampápuṇi nirupameyyatam eva nátho | taṁ
sabbalokahitaṁ asamaṁ namámi ||

15. Buddhaṁ naránarasamosaraṇaṁ dhittattaṁ | paññá
padípa jutiyáviḥatandhakáraṁ | atthábhikáma naraḍevahitá
vahanṭaṁ | vandámi káruṇikaṁ aggaṁ anantañāṇaṁ ||

16. Akhilagaṇa nidháno yo munindo pagantvá | vanam
Isipatanávhaṁ saññatánaṁ niketaṁ | tahim akusalachedaṁ
dhammacakkaṁ pavatto | taṁ atulaṁ abhikkantaṁ vanda-
neyyaṁ namámi ||

17. Sucipariváritaṁ surucirappabháhi rattāṁ | sirívísaya-
layaṁ gupitaṁ indriyehupetaṁ | ravisasi maṇḍalappabhuti

lakkhaṇopacittam | suranarapūjitam sugatamādarām namāmi ||

18. Maggolumpena muhapaṭighāsādikullolaviciim | sam-sārogham taritam abhayam párapattam pajánam | tánam leṇam asamasaraṇam ekatittham patittham | puññakkhettaṇ paramasukhadam dhammarājam namāmi ||

19. Kaṇḍappamúle parahitakaro yo munindo nisinno | accheram sígham nayanasubhagam ákulannaggijálam | dujjá-laddham samunibhi jahitam pátiheram akási | vande tam seṭṭham paramaratijam iddhidhammehupetaṇ ||

20. Munindakko yeko dayudayaruno ñána vitthiṇṇa bimbo | vineyya lokánam kamalakathitam dhammarāmsi varehi | subodhesi suddhe tibhavakuhare byápitakkittinañca | tiloke-kaccakkhum dukham asahanam tam mahesiṇ namāmi ||

21. Yo jino anekajátiyam saputtadāram aṅgajivitaṇpi | bodhipemato alaggamānaso adásiyeva atthikassa | dāna-pāramim tatoparam apúri sílapāramādikampi | tāsam iddhiyo-payátam aggatam tam ekadípakam namāmi ||

22. Devádevátidevaṇ nidhanavapudharam Mára bhaṅgam abhaṅgam | dípaṇ dípaṇ pajánam jayavarasayane bodhi-pattam dhipattam | brahmá brahmá gatánam varagíra ka-thitam pápahinnaṇ pahinnaṇ || loká loká bhirámaṇ satisaṇ abhiname tam munindaṇ munindaṇ ||

23. Buddho nigrodhabimbo mudukaracaraṇo brahmagho-seṇajaṅgho | kosacchádāṅgajáto punarapi sugato supatitthi-tapádo | mudodátunṇalomo athamapi sugato Brahmujuggatta bhávo | nilakkhi díghapaṇhi sukhuma mala chaví thomya rassaggasaggi ||

24. Cattálisaggadanto samakalapanaṇo antaram sappapíno | cakkenaṅgitapádo aviraḷadasano márajussañkhapádo | tiṭhanto nonamanto bhayakaramudunájannukánamasanto | vaṭṭa-kkhandho jino gotaruṇapakhumako síhapubbaḍḍhakáyo ||

25. Sattappínoca díghaṅgulimatha sugato lomakúpekalomo | sampannodátadátho kanakasamataco nilamuddhaggalomo | sambuddho thúlajivho atha sihananuko jálikappádahatto | nátho uṇhissasíso iti guṇa sahitaṇ tam mahesiṇ namāmi ||

26. Buddho Buddhoti ghoso atidulabhataro ká kathá Buddhabhávo | loke tasmá vibhávi vividhahitasukham

sádhave patthayantâ | ittham attham vahantañ sura nara
mahitañ nibbhayañ dakkhiṇeyyañ | lokánañ nandivaddhañ
dasabalam asamantañ namassantu niccañ ||

27. Puññenetena soham nipunamati sato samparáyeca
titto | dakkho diṭṭhujjupaṇño avikalaviriyo bhogavá sañ-
vibhági | tikkho sūro dhitatto saparahitacaro dīghajīvi arogo |
dhaṇño vaṇṇo yasassī atibalavadharo kittimá khantupeto ||

28. Saddho dātaṅgupeto paramasiri dayo diṭṭhadhamme
viratto | lajjī kalyāṇamitto abhiratakusalo pañcasīlābhirakkho |
appiccho appakodho ativujhadayo iddhiṃ appameyyo |
pāsaṃso pemavāco sujanagaṇa-vidú māmako so bhaveyyaṃ ||

29. Etthamasāṅkhaye nátha-guṇe lakkhaṇadīpite | gá-
thásu sūcakāsveka-gáthampi sarate budho ||

30. Caturápāya mutto so sādakatthadvayassaca hatopad-
davajāloca lābhī hitasukhassaca ||

31. Adhipo naradevānañ catudīpissaropivá | bhaveyya an-
timadehe dhāraṇṇiṃ seta chattaṇaṃ

32. Bhāvanāyānañ áruya samam essati subbato | ima-
sīm atthabhāvepi arogo dīghajīviko ||

33. Pūjito sabbalokehi bhāvanābhiratīmano | janappiyo
manápoca ká kathákhiladhāraṇe ||

TRANSLATION.

1. I incline my head in praise of the Lord Buddha the auspicious one¹ who walks in the right path; supreme of beings who has left all states of merit and demerit; who is freed from death and is the nectar (of righteousness); without passion peerless and giver of the peerless gift; the refuge and remembrancer² of mankind: sinless himself and causing sinlessness; all secure and guiding to the abode of security.

2. I venerate the incomparable Buddha, with limbs and body lovely to the eye; gifted with a voice sweet and noble; the stay of a boundless multitude of virtues.

3. I adore Buddha the blessing of gods and men who is possessed of steadfast knowledge, endured for the sake of mankind bodily and mental anguish.

4. I adore the Sage who has reached his final birth: who

¹ The commentary translates this as "speaking good words." I can find no trace of this meaning.

² Cf. *lokavidu*.

has a body adorned with the 32 divine marks and radiant with emanations of light: who is endued with wisdom, fortitude, piety—a flood, in fine, of graces.

5. I adore the omniscient Lord of sages, with a face resembling the full moon, beauteous with splendour in the midst of his monks, like the guardian sun at the early dawn.

6. I revere the invincible, the conqueror of Mára; the Buddha who, endued with merit at the foot of the noble Bodhi tree, subdued Mára with his army, and enjoyed perfect knowledge at the rise of dawn.

7. I revere the being possessed of the miracle of transcendent wisdom, with the sword of spotless knowledge that cleaves asunder passion, holding the shield named reflection and adorned with the ornaments of a crowd of virtues.

8. I adore the all-seeing infinite one, the abode of mercy who in each existence has overcome difficulties and who after crossing the ocean of life has reached perfection; Lord of three worlds, the friend endowed with exquisite beauty.

9. I adore the overcomer of irreverent fools,¹ who has accumulated a store of perfection in each existence, who bestows the bliss reached only by the good, and has become the cause of happiness of all mankind.

10. I adore the Buddha dissipator of suffering; the sage who like a skilful mariner, grasping the rudder of exertion with the hand of knowledge, has embarked on the vessel of the eight-fold path, and has with it crossed the manifold sea of existence.

11. I worship the conqueror, the passionless one, friend of gods and men, who bears the whole 33 perfections, who perceived the four truths beneath the glorious Bodhi Tree and has reached to miraculous power.

12. I worship the conqueror supporter of the universe, endowed with religion of lily-like² purity, with intellect wide as the firmament and steadfastness like the stern mountain; the passionless one with characteristics arising from a hundred virtues.

¹ "namánamánám jina puṅgavaṁ gavaṁ." The last word is remarkable used in this sense.

² *Jalaja* 'a lily.'

13. I adore perpetually the Buddha incomparable with any deity, who effulgent in his wisdom like the sun at day, seated on the stone¹ seat that produces delight, bestowed the law that leads to happiness and beatitude.

14. I adore the unequalled one friend of the whole universe, the leader who with feet lily-soft in skin, and marked with lines perfect and clear, has reached the immeasurable void.

15. I revere Buddha the compassionate, the supreme, of infinite wisdom, the union of gods and men, the² firm-minded one, who has destroyed darkness with the splendour of his lamp of wisdom, and who, yearning for their happiness, brings benefits to gods and men.

16. I adore the peerless chief of sages, the beauteous one deserving of worship, the receptacle of all the virtues, who having proceeded to the Issipatana forest, the home of ascetics, there started the wheel of the Law which destroys demerit.

17. I affectionately adore the Buddha revered by gods and men, gleaming with resplendent brilliance, amid his bright retinue, the abode and sphere of effulgence, furnished with senses well restrained and an accumulation of marks distinctive of the sun, moon and other planets.

18. I adore the Ruler of Religion, the abode of holiness, giver of supreme bliss, who with the raft of the four paths has crossed the flood of continued existence, billowy with the waves of folly, hate and lust, and has reached the further shore of safety, the home and refuge and haven of mankind.

19. I adore the most excellent chief of sages giver of supreme bliss, who seated at the foot of the Kāṇḍa tree swiftly wrought for the benefit of others a miracle *unleft by sages* (*munibhi ajahitam*),—the sheen of fire and water undisturbed, marvellous and pleasing to the eye and destroying all false glamour.

20. I adore the Ruler, the long-suffering one, the single eye of the universe, the sun-chief of sages, the day-spring of compassion, the spacious sphere of wisdom, whose fame per-

¹ Alluding (says the commentary) to Sakka's throne, the "paṇḍukambala."

² *Dhittattam*.

meates among all the pure of the three worlds and who with the glorious rays of his religion enlightened those called "the lily" among intelligent creatures.

21. I adore the imperial conqueror who from his love of wisdom gave in countless existences with unselfish mind freely to the asker, wife and child and limb and life itself, and fulfilled the perfection of charity besides the other perfections,¹ and who from their magic might has reached Transcendency.

22. I adore² perpetually Buddha chief of sages, the desire of the universe, who has forsaken sin, more divine than all the gods, who has reached his final existence,³ the invincible one who has vanquished Māra, the lamp and shelter of mankind who attained supreme knowledge on the noble couch of victory and announced glorious tidings to the Brahma world.

23. Buddha whose girth is like a banyan tree, who has fair soft hands and feet, the voice of a Brahma, the legs of an antelope, limbs soft as the sheath of a lily-bud; whose feet are firmly set, whose hair is soft and white between the eyes (Burm. commentary "like silver"), whose body is straight and erect as the Brahma kings, whose eyes are dark, whose heel is long, whose skin is delicate and whose nerves of sensation meet at the top of his back.

24. Buddha who has forty teeth meeting at the top, even and regular, a back⁴ rounded and plump, feet characteristically marked, teeth without a cavity, who standing with high instep can, unbending, touch his knees with both his soft hands; whose neck is rounded, whose eyelashes are delicate and whose body is like the upper part of a lion.

25. Buddha who is plump in the seven parts, whose fingers are long, and who has a single hair growing in each hair vesicle, whose canine teeth are white, whose skin is like pure gold, with dark hair on the summit of his head; the All-wise whose tongue⁵ is large, who has the jaw of a lion, whose feet

¹ The 10 páramis are dāna, sīla, nikkhama, paññā, viriya, khanti, sacca, adhiṭṭhāna, mettā, upekkhā.

² satsam.

³ nidhana vapu dharan.

⁴ antaram sappapino.

⁵ i.e. can reach from its looseness from right to left ear. The Burmese commentary explains this attribute as meaning that his tongue can cover his forehead and touch his hair.

and hands are like a buckler, whose head is crested; him I adore, the ruler gifted with all these characteristics.

26. In this world it is difficult to hear "Buddha" "Buddha" even as an address; what then shall be said of the state of a Buddha? Let the wise and virtuous therefore among men who desire the various forms of happiness adore continually the peerless Buddha, who increases the joy of the universe, who is all secure and worthy of oblations, worshipped of gods and men and accomplishing each man's desire.

27. By virtue of this panegyric may I in the future be subtle-minded and intelligent, content and clever, of far-seeing wisdom and of unfailing vigour, prosperous and generous, acute and courageous, firm-minded, helpful to myself and others, long-lived and healthy, wealthy and handsome, famous and valiant, renowned and endowed with patience.

28. Moreover may I be faithful and charitable, of pre-eminent fame, compassionate and unselfish, modest and with virtuous friends, delighting in works of merit, observant of the five duties of religion, wanting little and slow to wrath; of upright heart and possessed of supernatural power; gaining infinite praise, pleasant in speech, amiable and recognizing the virtues of others.

29. Let the wise man call to mind but one among these stanzas which reveal the characteristic qualities of the Buddha.

30. He will then escape the four states of purgatory and obtain happiness in both worlds; he will break through the web of adversity and obtain pleasure and happiness.

31-2-3. He will obtain sovereignty over gods and men and the lordship of the four great islands and in his last existence having mounted the chariot of meditation, bearing the white umbrella of an Arahāt, he will reach Nirvāṇa. In this existence also he will be healthy and long lived and universally respected, taking delight in meditation, beloved of men, and amiable; what then shall be said of one who remembers the whole series of stanzas?

ART. VIII.—*Chinese Laws and Customs.* By Christopher GARDNER, Esq.

WHEN I promised to write a paper for the Royal Asiatic Society on Chinese Laws and Customs compared with the primitive Laws and Customs of the Latin, Teutonic, and Indo-Germanic Races, I was not aware that my friend Mr. E. H. Parker had already written on the same subject (*China Review*, vol. viii. p. 67). I have now read Mr. Parker's paper with great care and attention. Though he only deals with Comparative Family Law, yet this is so large a portion of my subject, and Mr. Parker's views are so in accordance with my own, that I doubt whether he has left me enough to say so as to form the subject of a full paper. I therefore propose, on this occasion, only to make a few observations.

The Chinese written Law consists of *Lu* 'Codes' and *Li* 'Constitutions'; the latter are compiled by Chinese juriconsults (*Shih yeh*) from 'Rescripta' (*Pi yü*), 'Decreta' (*Tang tuan*), and 'Edicta' (*Yü shih*), and are published as authoritative by the Government. As far as one can compare English with Chinese institutions, one may state that the *Lu* is a codified form of Customs and Common Law, whereof the memory of man goeth not to the contrary, while the *Li* represents Statute Law. Both the *Lu* and the *Li*, except when dealing with fiscal and similar regulations, are founded on the *mores majorum*, customs long observed and sanctioned by the consent of the people. It is certain that the Chinese have but very slightly modified their laws and customs from long before the time of the *Tang* Dynasty, the seventh to the tenth century A.D. The Chinese Laws cannot be squared with Bentham's and Austin's theory of resolving all laws into commands imposed by a lawgiver;

on the contrary, both the *Lu* and the *Li* sanction previously existing custom, or, in Chinese words, *Shun po hsing chi ching* 'follow the instincts of the people' (literally, 'of the hundred families'). None of the various foreign conquerors of China attempted to overthrow these laws and customs. Each dynasty adopted the *Lu* of its predecessor, and the *Li* of successive dynasties have only applied the principles of the *Lu* to newly arising requirements; the consequence is, we have in modern China a most rich field for illustrating the origin of primitive law, in fact we seem to be carried back to Roman Law previous to the publication of the Twelve Tables, or, to quote Mr. Parker's apposite words, "We survey a living past and converse with fossil men."

As in China the advance has been from the Family to the Tribe, and from the Tribe to the *Gens*, thence to the community, and lastly, so that only recently (and even now imperfectly), has the idea of the nation been grasped; we may lay it down as an axiom, that law in China is derived by evolution or by fictions from the necessary authority of adults over their progeny. Mr. Parker shows that the principle of *Hsiao* (which in its narrowest sense means the subordination of children to their natural parents) is undoubtedly the substratum of the Chinese social and legal fabric. The Chinese say, *Wan tê hsiao wei hsien*, '*Hsiao* was the first of duties.' I would go a step further than Mr. Parker, and consider *Shun* the conjugal subjection of the female, *Ti* the subjection of junior to elder agnates, and *Chung* subjection to tribal chief, and more modernly, loyalty to Emperor, all which the word *Hsiao* now includes in its broader sense, and were successive developments of the narrowest idea of *Hsiao* by the successive fictions of the husband being *in loco parentis* as regards his exogamitic wife, the elder agnates being so as regards their juniors, and the ruler, prince, and emperor being so as regards their subject. The present title of the magistrate of a district (*Hsien*) is *Hsien fu mu* 'father and mother of the district.' By straining the analogy of parentage the members of guilds and trades' unions are under the subjection of the managers.

The duty of submissiveness in this status is expressed by *Shun*, the same word which expresses the submission due from a wife to the husband. By still further straining the fiction, the Chinese make *Hsiao* also include *Hsin* or 'friendship.'

One of the first points that obtrudes itself upon the notice of those who study Chinese Law is the fact that *connubium* does not exist between parties of the same surname or *Hsing*. Now *Hsing* is a word of wide significance. The Hundred *Hsing* means the whole Chinese people. Undoubtedly surnames are a very ancient institution, but there is nothing whatever to lead us to the conclusion that at any period of Chinese history those of the same surname were agnates either by blood or the fiction of adoption, now that non-Chinese have adopted Chinese surnames, as is the case with the subjected savages of Formosa and Hainan, of many Mongols in the North, and of Yao in Kwangtung, etc., etc. The bearing of the same family name does not, in fact, afford the slightest presumption of a common ancestor; nevertheless, there is a sentimental idea in the Chinese mind that persons of the same family name may possibly have a common ancestor, and, therefore, in adopting a child, failing agnates and cognates, where a stranger is obliged to be selected, the Chinese often, as observed by Herr Von Moellendorff, prefer a child bearing the same family name as themselves. It is, perhaps, needless to point out that the absence of *connubium* between persons of the same surname seems to indicate, as do certain survivals of marriage by capture, that exogamy has in China prevailed over enogamy.

Agnate relationship, natural or by fiction, is expressed by *Tung tsu*; and, at this point, I deem it advisable to enter into more detail than Mr. Parker has done. Agnates are bound by the following ties: they have the same ancestral temple *Tsu tang* (or *Tsu tang* affiliated thereto); they are inscribed on the same family register *Chia pu* (or *Chia pu* affiliated thereto). They form a *Gens* with the same surname (*Hsing*). Like the members of the *Gens* in Rome, agnates in China had

probably at one time the right of interment in one common burial-ground (*Fên ti*); this is no longer invariably the case; burial-grounds have in many instances grown too small for all the members of the *Gens*, and therefore, as is the case with the Hwang family of Shantung, the *Gens* divides itself into branches, and each branch has its separate burial-ground. The tomb of the first ancestors of the branch (husband and wife) occupies the central position at the end of each *branch* cemetery. *Tsu tang* 'ancestral temples,' are never erected on the *Chia Fên ti*, 'family cemeteries.' The members of all the branches are, as before stated, inscribed on the same *Chia pu*, or *Chia pu* affiliated thereto, and are under obligation to subscribe to the *Tsu tang* in various manners and on various occasions, for instance, by a heavy fee paid by the representatives of a deceased Chinaman when a tablet to his memory is placed in the Ancestral Temple. The *tablet* of the common ancestor occupies the central position in the family temple. At stated periods members of the *Gens* meet at the family temple, and after the performance of prescribed rites (*Li* 'sacra'), such as prostration before and burning incense to the tablets, arrangements are made with regard to the disposal of the temple funds, and the proceedings wind up with convivialities, in which the partaking, by males, of a meal laid out before the tablets, is an essential, followed sometimes by theatricals, etc. The members of the *Gens* have the right, providing they have performed the necessary *sacra*, of partaking in the pecuniary advantages conferred by the funds of *Tsu tang*, such as provision for indigent widows, education for indigent orphans, etc., etc., as the committee-men (*Tung hih*) of the temple,—usually five in number, and each the representative of one or more branches of the *Gens*,—may determine. Besides the *sacra* of the *Tsu tang* (*Templum Gentile*), there are the *sacra* of the *Mên tang*, called by Mr. Parker the "Private Ancestral Hall." Chinese terms are vague and loosely used. I would suggest the following as the meanings to be generally gathered from them:

Tung hsing.—Implies all with the same surname.

Tung tsu.—All agnates of the same *Gens*.

Tung chia.—Agnates and cognates of the same branch of the *Gens*.

Hu.—Has a two-fold meaning: 1. The branch of a *Gens* under the same family control, in *Hu lu*, *Hu pu*, etc.; in this sense it is often used co-terminously with *mén*, though strictly a *Hu* may include several *mén*; and 2. An individual in such terms as *Yén hu* 'a man,' *Mén hu* 'member of a household.'

Mén.—'Household,' includes all who reside in the same inclosure. We cannot say, as we should say in England, all who reside under one roof, for that is not the way Chinese always live. Rich people inclose a space of sometimes many acres with a high wall, and build many houses thereon; in the central position is the house occupied by the head of the household, and at the side are buildings devoted to wife, children, grandchildren, nephews, nieces, retainers, domestics, and slaves. A *mén* sometimes includes as many as 200 souls as we say, or *K'ou* 'mouths,' as the Chinese say.

Fu chi.—Is the single married couple. In poor Chinese households the *Fu chi* and children often compose the whole of the *mén*.

The right of inheritance of a member of the *Tsu* in advantages common to all members of the *Gens*, such as participation in the funds of the *Tsu tang*, and in the *Chia tien* 'arable lands,' and *Chia ti* 'common lands belonging to the *Gens*,' and the right of a member of the *mén* to inheritance in property belonging to the household, is dependent upon his paying the dues to the *Tsu tang*, and upon the performance of the prescribed *sacra*. Right of inheritance may be said only to exist where there is the obligation of performing certain rites. This is a most important fact to bear in mind. Many missionary troubles in China and alleged persecutions of Christians have had their origin in converts attempting to obtain the direct and indirect advantages of inheritance without paying the obligatory dues, or without performing the obligatory rites.

There is a custom of persons, neither agnates nor cognates, nor even with the same *Hsing* surname, joining together in

having a common family temple. I think the custom must have partly arisen to evade the laws against secret societies and brotherhoods. Anyhow, the custom is now illegal, and liable to be severely punished. The Viceroy of the Two Kwang issued a proclamation a short time ago ordering the suppression of these temples and the arrest of their committee-men. The avowed object was to protect persons from being constrained to pay fees on the deaths of members of their family, etc., to support such institutions, which the proclamation stated were only established for the pecuniary advantage of the promoters; but one may surmise that the facilities such mock ancestral halls afforded for plotting crimes and rebellions, or at all events for the meeting of criminals and outcasts, had something to do with the prohibition.

Every respectable Chinese takes care that his own name and that of his children shall be inscribed on the *Chia pu* or family register. The custody of this *Chia pu* is vested in the head of the family, but no entry can be made therein except with the consent of the family council. I would suggest as an hypothesis requiring further consideration, whether it is possible that this and other limitations of the patriarchal authority in Chinese law are survivals from a time when physical strength formed the foundation of right, and when the aged patriarch could necessarily exercise but little control over his able-bodied descendants.

A male who becomes a Buddhist priest gives up his surname and secular names, and is known henceforth only by a name given him at his becoming *Tséng* (Sanskrit *Samgha*). This name is called the *Shéng míng* 'holy name.' With his surname he gives up his rights and duties in his *Gens* and in his *mén*. Buddhist priests are largely composed of criminals, not because such criminals have taken sanctuary in a temple, for Buddhist temples have not in China the right of sanctuary, but because the family council, in order to avoid disgrace, often allow a criminal member of the family to resign by becoming a Buddhist priest, instead of expelling him. If he becomes a Buddhist priest, his name is *ipso facto* cancelled

from the *Chia pu*. If he is expelled from the family, his name is erased from the *Chia pu* after a solemn conclave of the family. As long as a man is a Buddhist priest, he is not allowed to marry. Families are thus able to get rid of obnoxious members. Buddhism is comparatively a modern institution in China. This custom must therefore also be modern; but it is interesting as an example how old Chinese institutions adapt themselves to new circumstances. Sometimes parties by inadvertence or accident fail to be registered; for instance, they go to a distance and cease to be in communication with their *Gens*, they *Tiu chieh* 'lose their connection with home.' Sometimes they are expelled for offences. In these cases they and their descendants become *Liu min* 'vagrants,' and *Wu lai ti* 'without any one to depend upon,' outlaws (or *lordless*?). Of course the *lordless* man points to a less primitive state of society than that now ruling in China. A man expelled from the *Chia pu* can be re-admitted on having given unmistakeable proofs of reform, among which, I imagine, gifts to the *Tsu tang*, and pecuniary kindness to influential members of the family, are indispensable. Many romantic stories of *Liu min*, accidentally discovered by rich members of the *Gens* to be agnates and rescued from poverty to affluence, are told to any one who cares to study Chinese social customs.

A woman who becomes a nun (*neih ku*) also, by this very fact, gives up her place in the *Gens*. She, also, on marriage quits her *Gens* (*Chuh chia* 'to marry' means, literally, 'to leave the family'), and joins the *Gens* of her husband. Marriage in China is of two kinds, corresponding closely with the Roman *confarreatio* and *coemptio*. The *Chi* (wife by *confarreatio*) becomes a member of the *Gens* of her husband, and has certain rights in case of widowhood to a provision from the property of the *mén*, or, failing this, from the property of the *Gens*. She worships her husband's ancestors, and on one occasion at least her husband worships her ancestors. She brings with her a portion from her own family, over which she has separate control; she is the natural administrator of her deceased husband's individual estate, and from this

position she cannot legally be dislodged, except for misconduct or incompetence affirmed and testified to by a family council. She is the mistress of the household and bears sway over all the *Chieh* (wives by *coemptio*) of her husband. She not only shares her husband's honours, but wears also her husband's uniform, and, in many instances, aids him in the performance of his official duties. She is joined to her husband by a most solemn and complicated ceremonial. This ceremonial is seldom performed in its entirety, except with the wealthiest classes. She is often a cognate relative of her husband. She is *uxor uxori aqua*. I cannot agree with Mr. Parker that the *Li* presents offered by the bridegroom to the bride's family are a survival of purchase; but I do not wish to attach too much importance to the fact that these *Li* are generally of not much value, nor to the fact that the bride's family do not accept them all; at the same time I cannot help thinking that the fact that the word *li* 'ceremony,' 'courtesy,' and thence 'gift of courtesy,' is never used in the sense of *Chia* 'price,' and that the Chinese are exceedingly tenacious in preserving terms long after their meaning has changed, tend to indicate that had there been a survival of purchase in the marriage by *confarreatio*, we should have had an etymological indication of it. I am inclined to think, on the contrary, that the status of a *Chia* was once a privilege confined to the females of a patrician class, among which *enogamy* originally prevailed contemporaneously with exogamy. Even now no noble, no official, and no person who has obtained a literary degree, is allowed by law to give his daughter in marriage except with the status of a *Chi*. Nor can he give his own wife the status of a *Chi* if she is the offspring of a slave, or of a disenfranchised class. Against this view, however, may be adduced certain forms in marriage ceremony which seem survivals of marriage by capture. The husband does not wear mourning for the *Chi*, but cannot legally, except by special sanction of the Empress, marry another *Chi*. Consorts who are treated by their husbands as *Chi* are treated as *Chi* by others in social courtesy, though they may be second spouses, or though the marriage ceremonies may have been imperfectly per-

formed. I doubt whether such consorts would be allowed to share their husband's honours or to wear his uniform.

In marrying a *Chieh* (wife by *co-emptio*) there should always be the form of a purchase, as in general there is the fact. The marriage with the *Chieh* is a contract, and if reduced to writing, the document is called, as in the purchase of a slave, "*Mai shen Chi*," agreement for selling a person; the price, *Shên chia*, is always stated, though often only nominal. The marriage is consummated by the residence of the *Chieh* in the *Mên* household of her husband. The woman who cohabits with a man by temporary *consortium* elsewhere than in his household is a man's *Piao* 'mistress,' not his *Chieh*. As the *Chieh* is often given the social courtesy of a *Chi*, so the *Piao* is often given the social courtesy of a *Chieh*. But there is a great difference between them. The *Chieh* worships her husband's ancestors; the *Piao* does not. The children of the *Chieh* are legitimate, and share in all heritages. The children of the *Piao* are bastards, *fili nullius* not even of the mother.

I have not met with polyandry in China; but Mr. Baber informs us that it exists among certain non-Chinese tribes in Szechuan. I have heard, also, that it exists among Chinese in California: if my informants were accurate, I imagine it would be rather abmorphous than a reversion to an ancient custom.

Adoption in China is exhaustively treated by Mr. Parker. It is interesting to compare his language with a paper read at Oxford, before the University, by D. M. Gardner, Esq., D.C.L., H.M. Judge at Benares, on the Hindoo Law of Adoption, 1881, a copy of which paper I have presented to the Royal Asiatic Society.

The nearest approach to arrogation I met in China was while I was assessor at the Mixed Court at Shanghai. A question of identity was complicated by the person to be identified having borne at various times different surnames. After he was grown up his mother entered into second nuptials. A cousin was adopted to perform the *sacra* to his dead father, and he himself took the surname of

his step-father and performed the *sacra* to his step-father's ancestors. Some time after, mother, step-father, and cousin successively died; on the last-named event, he resumed his own surname, and again performed the *sacra* to his own father, a child being adopted to the step-father after death to perform the *sacra* to him.

I have nothing to add to what Mr. Parker says with regard to slavery.

I consider Mr. Parker's paper displays both learning and acumen. Nevertheless, I think there are one or two expressions in it to which, if I was disposed to be hypercritical, I might take exception; but as these mostly occur in the *obiter dicta*, and but little affect the main line of thought, I forbear, except to point out that practically in China a man has not the right to make a testamentary disposition of his property.

The *Itsai* is not a 'will' in our sense of the term; it is simply an expression of the last wishes of the deceased binding on his sons as a filial duty *in foro conscientiæ*, but not *in foro legis*; the only reason it is not often disputed in a court of law is that no court of law in China could give it any weight. When the *Itsai* has been reduced and signed by various members of the family as witnesses (strangers never sign as witnesses), it bears weight not as a will duly attested, but as a documentary proof that the signatories contracted to agree to the disposition of property indicated. Even in such cases the *Itsai* itself must be equitable. The presence of the signatures of respectable members of the family only creates a presumption that the *Itsai* is equitable, and throws the burden of proving the contrary on those who contest its dispositions. Here again the individual is of little account compared with the race; he is only *Yih tiao ming*, a single link in the chain of family existence. Devolution of property forms the most fruitful source of native litigation in China.

I now leave Mr. Parker, and break what I believe to be entirely untrodden ground.

Chinese Law is further primitive in the following respects:

1st. It is vindictive and not deterrent, and is therefore

uncertain in its incidence. *Fiat justitia ruat cælum* is a maxim that does not obtain in China; another principle is evoked, *Shun po hsing chi ching*, 'Accord with the instincts of the people.' Each case in China is decided, not on its merits, but with a view to the effect of the verdict on public opinion. As long as the decision of a judge causes no powerfully backed discontent, it is upheld; if it causes a riot, it is no excuse that the decision was in accordance with law. The magistrate of Lieu shing was removed in 1875 for a decision avowedly legal.

2nd. In China the means of executing decrees are extremely deficient. A similar deficiency in early English Law may perhaps be traced in the common law right of remedy by action of party aggrieved, such as distress. In Indian Law, "Sitting Dharma" forces itself upon the attention of the student, and in Brehon Law the "Starving upon." In China there exists a custom, the nearest approach to which is the story of the importunate judge; of an unrelieved suitor gathering his friends together, who sitting round the residence of the judge howl as loud as they can. This custom is called *Han yuan*. Sometimes the wronged man, out of spite (*Hwai yuan*), will commit suicide to avenge himself (*Pao chou*) on the wrong-doer. The idea being that the ghost of the oppressed will haunt the oppressor.

3rd. In China the group and not the individual is the legal unit. This exactly fits Sir H. Maine's words, "Primitive law is concerned not with individuals, but with families, not with single human beings, but with groups." The paternal authority is wielded in China by husbands, elders of village communities, and even by committees of trades' unions and guilds, which are formed on the model of families, who are responsible, civilly and criminally, for their children, wives, villagers, and members of guilds and trades' unions respectively.

4th. In China, social opinion is behind the law. In European countries, which are all more or less influenced by the elaborated Roman system, and are in a highly artificial state of society, it may, as Sir H. Maine says, "Be laid down that

social necessities and social opinions are always more or less in advance of the law."

5th. Subtlety of distinction, both in the nature of the law and in the nature of the subject-matter of the law, was a distinctive mark of the law of Rome, as it is now of the laws of our artificial modern societies which have been influenced by Roman Law. Nothing of the sort rules in China; she has progressed in a different direction. As the expanding needs required new declarations of law, she has by a series of fictions and strained analogies placed them under the categories of old terms. In China no distinction is drawn between criminal and civil law, between actions *in rem* and actions *in personam*, nor yet between realty and personalty. To make still plainer what I have said, I may mention that all Chinese *Li* with regard to registration, and enrolment of the people, personal state service, ownership and transfer of land, mortgages, marriages, currency, inland revenue, debts, trusts, markets, brokers, contracts, succession, etc., etc., are all placed under *Hu lu lo* 'part of code for regulating households.' Again, the internal opium trade, growth of the poppy, etc., etc., are regulated by *Li* placed under the portion of the code headed "Code against leaving the jurisdiction and fitting-out vessels contrary to regulation."

6th. Land is largely held in China, not as the property of the individual, but as the property of the household, of the family, or of the village community. Villages are sometimes composed of one family, and sometimes of two or more families combined. We find traces of similar land tenure, notably in India. In Russia the '*mir*' system may be a development of similar tenure. In China there is no periodical distribution. Individual ownership in China has not arisen by individual occupation of land. Sir H. Maine points out traces of primitive tenure of land in common both in England and Germany in the three-fold division of land into *a.* the village merk, *b.* the arable merk, *c.* the common merk. Chinese law is not rich in distinctions, yet a somewhat similar division may be traced in *a.* the *Chwangti*, land with houses; *b.* the *T'ien*, arable land; *c.* the *Shanti*, hill land.

a. House land in China is generally the property of an individual, or at all events of a household. The buildings on house land are, as far as one can apply English law terms in Chinese matters, personal chattels; the tenant often pays two rents, one to the owner of the land, the other to the owner of the house. On determination of a lease of land, the houses on it can be removed. The purchase of land does not include buildings thereon erected. It is customary on purchasing land to pay separately for the buildings, or for the cost of their removal. When Europeans buy land of natives, the native vendor indemnifies the owners of the houses.

b. *T'ien*. Much of arable ground is held generally by a *chia*, in common with a custom ordering rotation of crops.

c. Hill lands are often exactly in the same position as the common merk, held in common by the village, all the inhabitants of which have right of pasture and of gathering fuel.

Where individual ownership of land exists in China it is entirely of modern origin, the circumstances giving rise to it having been various. Among them may be mentioned fraud of adults to the prejudice of minors and females, buying up the interest of improvident members of the family; and still more recently, where population had increased, recovery with hired labourers of land from the sea and rivers; this, however, has generally been done by families and villages more than by individuals, and still more rarely by reclaiming lands lying waste and deserted by cause of war, pestilence, and famine. These waste lands properly revert to the Government, which has generally granted them to villages formed of disbanded soldiers, banished criminals, families of rebels whom it is deemed necessary to separate from other families of rebels, vagrants, and outcasts who have no means of subsistence, etc. In the course of a few decades, these villages are hardly distinguishable from other villages. Mr. Baber has remarked as quite exceptional the comparative absence of such villages in Western Szechuan. There it appears at the present time families keep more separate in farms, and do

not congregate so much into villages as is the case in the rest of China.

Speaking loosely, one may say in Europe the village merk has entirely become the property of individuals, in China it has *almost* entirely done so. In Europe, excluding Russia, the arable merk has almost entirely ceased to be held in common, in China it has not half done so. In England Acts of Parliament have inclosed most of the common merk. In China the redundancy of the population has generally caused all ground capable of being made into arable land to be devoted to cereals; but villages and families, and not individuals, have generally appropriated the commons.

China is now showing a tendency to change the tenure of land from commonality to individuality, but this tendency is checked by the Government. 1st. By rendering it penal for families to divide their lands among the individual members, except with the consent of all such members. 2nd. By charging a high fee for registering transfer—about 12½ per cent. on purchase money.

The last remark I have to make is, the curious custom in the Brehon law of the literary foster parent seems to have its counterpart in the position of a teacher in Chinese estimation. I have not come across any written Chinese law fixing the *status* of a teacher resident in the family, but from notices of the custom to be met with in Chinese novels and in real life, and from information I have received from native acquaintances, I can state that the teacher, even when a young lady is his pupil, is often a young man; the teacher is, however, considered as a second father to his pupil, and cannot therefore marry her, nor yet, I believe, the sister of his pupil. Further, he is considered as a brother by the father and mother of his pupil. This rule, however, seems only to apply to the teacher domiciled in the house of the pupil, and not to the ordinary school-master; though to the latter is given the same title, *Seen sang*, or the still more respectful title *She fu*.

I know of nothing similar in countries under the influence

of Roman Law. The curtailment of *connubium* with regard to god-parents seems to have had an entirely different origin. The practice of god-parents in Europe may have arisen from the inability of a minor in Rome entering into a contract, except by means of a surety who answered for him. To the question, "Spondes ne?" the surety would reply, "Spondeo." If my surmise is correct, the word "sponsor" would be necessarily the term for god-parent.

Note.—I have to express my thanks to Sir R. Alcock for bringing into clear relief several salient points with regard to the Chinese legal system.

1st. The apparent absence of criminal law. Sir H. Maine has observed that progress is from Status to Contract. It is only when nations are somewhat advanced along this path that a distinction is drawn between civil and criminal law. The Chinese are in too primitive a stage to make this distinction. All their laws, which *we* should call civil, are to be found under that portion of the criminal code called *Hu lu*, hitherto translated "fiscal laws," but which properly means "code for regulating households."

2 "Absence of advocates in pleadings," "the legal profession being represented by secretaries attached to mandarins who perform both executive and judicial functions." Sir H. Maine has indicated the origin of paid advocates, who were so leading a feature of later Roman society. In Europe the use of paid advocates seems to have increased as the Roman law gradually replaced the national custom law. Sir H. Maine has also pointed out how gradual has been the separation of executive and judicial functions. The status of legal secretaries attached to executive officers in China is most interesting, as showing a primitive stage of progress towards drawing a distinction between the executive and judicial.

3rd. The mandarins decide cases without being fettered with the letter of the law. Sir H. Maine has pointed out the elasticity of the Indian and other primitive judicial systems, compared with the rigid uniformity of our own, and has shown that customs in India, which were in a transitional stage, have become fixed and rigid by our system of

strict adherence to law and precedent, which under the laxer decisions of native rulers would have been subject to gradual changes and modifications.

Sir Rutherford Alcock, in his brief remarks after I had read this paper, cited the three points in the Chinese system which are probably of the greatest interest to students of comparative jurisprudence:—

1. Austin and Bentham's Theory of Law being resolved into command of Law given, not good in China.

2. No traces in China of Family being more modern than Tribe. All evidence being in the opposite direction; Tribe being the development of Family. (Huxley and Spencer.)

3. Individual property in land did not arise in China by occupation. (J. S. Mill.)

ART. IX.—*The Oldest Book of the Chinese (the Yh-King) and its Authors (Continued)*. By TERRIEN DE LA COUPERIE, M.R.A.S.

V.—THE NATIVE INTERPRETATIONS.

42. The possibility of understanding certain parts of the *Yh-King*, such as the ethnological chapters and the legendary ballads, led early to the conclusion, that the whole of these documents could be currently read and interpreted. It is quite possible that the hexagrams¹ were attached to them merely as a system of numerical classification to keep them in proper order; but it is more likely that the antiquity of these obscure documents, and the tradition that they contained a treasure of ancient wisdom, first led to their use as fateful and prophetic sentences, in which some glimmer of meaning was detected or surmised, and that the hexagrams were then applied to them for the purposes of divination.

The attempt to explain these old fragments began early, and has been continued by a host of scholars. The selection of 1450 works on the *Yh* for the library of Kien-Lang points to anything but unanimity in the understanding of the book.

43. The profound modifications which were introduced by Wen Wang, in his transcription of the old text, are attested by the precise and exact traditions respecting his work, which we have quoted above (§§ 12, 13, 14, 38, 39). But

¹ On the possible connexion of the Kwas with the belomancy of S.W. Asia, the eight Kwas of Fuh-hi and the eight arrows of Marduk, see my *Early history of Chinese civilization*, p. 29-30.

the method he pursued in his treatment of the text, and more markedly still in the explanations (*Twan*) he appended to each chapter, is made clearer to us by the work of later commentators. The book itself, as it stands now, bears obvious traces of many discrepancies of views, as we shall see hereafter.

Wen Wang meditated upon the old sets of words appended to each leading character, title or subject of each chapter, and modified some of these characters to suit his fanciful interpretation of the context or sequel. He worked hard to make something of them and to accommodate them at all risks to some sort of signification. He expanded them so as to fill up the seven lines he wanted for each chapter, and he is open to the suspicion of having added more than the prognosticating words, when his materials were not sufficient. When the primitive text at his disposal was too short for his purpose, the same meanings are severally repeated; but when the contrary happens, the meanings are piled up one after the other, with an attempt to make out some kind of sense, which is necessarily broken and disconnected; except in a few cases where, either by chance or by ability in modifying the characters by their homonyms or synonyms, some kind of connected meaning has been obtained. It should be observed, with reference to those chapters which are mere lists of meanings, that the very nature of the case made it an easier task to force a general internal connexion upon them, because of the occasional relation of the meanings, primitive or derived.

44. Wen Wang has arranged the *Yh* documents, exchanging characters, sometimes for their homonyms, sometimes for their synonyms; he has displaced some in order to give the prominence to characters which could be taken as foretelling words; and of such words he has interpolated not a few. He has ingeniously tried to give to the whole of every chapter an appearance of relation to the special symbolic meanings attributed to each of the two trigrams composing the hexagram, and, in so doing, has led the way for subsequent commentators, among whom his son Tan holds a prominent

place. He has written the *T'wan*, which may be taken as a justification of the text as amended by him, and which gives hints on the symbolism he thought was embodied in the hexagrams.

45. If Wen Wang had actually evolved from his brain all these incongruous and more or less disconnected words, we might conclude that his confinement in Yu-li had seriously affected his mental power, since, if we take all the chapters for a genuine text, it is just such a composition as might have emanated from a lunatic asylum. The only possibility of avoiding such a conclusion is to admit, what is shown by various kinds of evidence, that he could not help using sets of characters and meanings framed a long time beforehand for each chapter, and that he did his best with them.¹

46. The *Yh-King*, with the Five commentaries, as arranged by Confucius, was handed down by one of the disciples of the Sage, called *Shang Kiu*² 商瞿, and styled *Tze Muh* 子木, of whom we know very little. Was it he who embodied into two of the wings the quotations of Confucius' words, or was it *Puh Shang* 卜商, styled *Tze Hia* 子夏, another of the disciples of the Sage, who is said to have written on the *Yh* a commentary in eleven books?³ The *Records of the Former Han Dynasty*⁴ report that the *Yh* was commented on during the Civil war period by numerous schools, but in fact we have only the names of those of the Han period. The next most important commentary seems⁵ to have been

¹ Chu Chen 朱震 has remarked (*Han K'ien Lui Han*, K. 195, f. 15v.), that Wen Wang made the *Yh* in such a manner that the Kwas 乾坤坎離 compose the first, and that 賁充震巽 compose the second book. These Kwas, which are the eight primitive ones, are classified in the present arrangement as Nos. 1, 2, 29, and 30, in the first book, and 52, 58, 51, and 57, in the second. Should any additional proofs be necessary to show that the increase of 8 to 64 was made previously to Wen Wang, this anomaly of arrangement would be one.

² On Shang Kiu, see *Tsien Han Shu*, K. 88.

³ *Puh Shang*, born 507 B.C., was yet living in 406 B.C., and then presented copies of some of the Classical Books to the prince Wen of Wei. He is represented as a scholar extensively read and exact, but without great comprehension of mind. See Legge, *Chin. Class.* vol. i. proleg. p. 118, on *Puh Shang*.

⁴ See the chapters on Literature, K. 30, f. 1.

⁵ See the 易經正義.

that of *T'ien Ho* 田和,¹ the great officer 大夫 who, in 379 B.C., founded the second dynasty of rulers of the state of Ts'i.

Many other scholars and commentators are known to have worked on the *Yh* during the centuries preceding and following the foundation of the Chinese Empire; the names of many and the works of a few are not yet altogether forgotten. They are reputed, by the later interpreters who maintain their own explanations, to have been uniformly in error.

47. When during the Ts'in dynasty the books were burnt (B.C. 213-212), the *Yh* being a book employed for divination was preserved. This is expressly stated by Pan K'u in his *Records of the (Former) Han dynasty* (section of Literature), where he reproduces the famous catalogue compiled in the last years preceding the Christian era, by Liu Hsiang, Liu Hin and others, of all the books gathered for the Imperial Library. We reproduce from this catalogue the list concerning the *Yh-King*, as follows:

Yh-King; 12 sections (from) *She* 施, *Mòng* 孟, *Liang Kin* 梁丘 3 schools. (Se Ku says: The upper and lower parts of the classic and the ten wings, namely 12 sections in all²)

Yh's tradition 傳 (from) *Ch'ou She* 周氏; 2 sections. (Grandson of *Fu Wang* 孚王孫.³)

———— *Fuh She* 服氏, 2 sections. (A native of *Tsi* 齊 called *Fuh Kwang* 服光.)

———— *Yang She* 楊氏, 2 sections. (Named *Ho*, styled *Shu-yuen* 何字叔元, native of *Che-chuen* 菑川 Shan-tung.⁴)

¹ See on *Tien Ho*, Mayer's *C.R.M.*, part i. n. 719.

² This is the Imperial copy, revised as said above by Liu-Hsiang.

³ Pauthier, *loc. cit.*, who quotes three of these works, says of this second: "Le *Yh-King* avec les explications de Wen Wang et de Tch'ou Koung en deux livres, tel qu'il subsiste encore de nos jours." There are several mistakes in these statements. The Chinese text says nothing of the kind, and Ch'ou She, in whose name he finds a reference to Wen Wang and Ch'ou Kung, was a literate of the Han period.

⁴ Probably so called from *Hien-Yang*, the capital of the Ts'in, the archives of which were saved by *Siao Ho*, who died B.C. 193, whose full name is given in the note. See on him, Mayer's *Chinese Reader's Manual*, n. 578, 601, and *Chinese Classics*, edit. Legge, vol. i. Proleg. p. 118.

- *Ts'ai Kung* 蔡公, 2 sections. (Native of Wei 衛, grandson of *She Ch'ou Wang* 事周王.)
- *Han She* 韓氏, 2 sections. (Named *Ing* 嬰.¹)
- *Wang She* 王氏, 2 sections. (Named *Tung* 同.)
- *Ting She* 丁氏, 2 sections. (Named *Kw'an*, styled *Tze*, 寬字子, native of Siang Liang.)
- *Ku Wu Tze* 古五子, 18 sections. (From 甲子 to 壬子 taught the Yn and Yang of the *Yh* 說易陰陽.²)
- *Hwei Nan's*³ Right-path Precepts 淮南道訓, 2 sections. (*Hwai Nan Wang* facilitated the researches and explanations of the *Yh*, and nine men studied the rules of the nine masters.)
- Old Miscellanies 古雜, 80 sections.
- Discriminations of Miscellaneous calamities 雜災異, 35 sections.
- 'Spiritual gyration' 神輸, 5 sections and one Map.
- *Möng She* and *King Fang*⁴ 孟氏京房, 11 sections.
- id. id. 66 sections.
- *Luh ch'ung tsung lioh shwoh* 鹿克宗略說, 3 sections.
- *King she ha kia* 京氏段嘉, 12 sections.
- Various extracts (from) *She*, *Möng* and *Liang Kin* 章句施孟梁丘, each 2 sections.
- Altogether 13 schools and 294 sections.
- In the chapter on divination of the "Catalogue" of Liu

¹ Probably T'ou Yng, who died B.C. 131. See on this officer, Mayer's *Manual*, part i. n. 678.

² From 57 to 9 B.C. As there is no other indication, we must take the cyclical characters as indicating the nearest period from the author's compilation—perhaps that *Ku Wu Tze* is to be translated *The Old Five Masters*. The statement is very important for the history of the *Yh* commentaries, even when a different view is maintained, as in 淵鑑類函, K. 192, f. 19.

³ Or *Liu Ngan*, who died B.C. 122. See Mayer's *Manual*, part i. n. 412.

⁴ On King Fang, philosopher and astronomer, of the first century B.C., see Mayer's *C.R.M.* part i. n. 270. In the list of 1690 works given as references by the compilers of the *Cyclopedia Tai-Ping Yü Lan*, eight works connected with the *Yh* and divination are by or on King Fang.

Hiang and Liu Yn, there are several titles of books on the Changes, as follows:—

周易, 38 Kiuen.—周易明堂, 26 K.—周易隨曲射匿, 50 K.—大筮衍易, 28 K.—大次雜易, 30 K.—於陵欽易吉凶, 23 K.—任良易旗, 71 K.—易卦入具.

48. At the time that the Han dynasty rose to power, the explanations of *Tien Ho* 田和 were still followed. Down to the dates of the Emperors *Süan* 宣 (73–48 B.C.) and *Yuen* 元 (48–32 B.C.), the *Yh* was commented on by *She* 施 讎, *Möng* 孟 喜, *Liang* 梁 丘 in the official literary schools, and by *Fei chi* 費 直, *King* 京 房 and *Kao* 高.¹ Among the people *Liu-Hiang* took the Imperial *Ku-wen* 古文 text of the *Yh-King*, and collated it with the editions of *She*, *Möng* and *Liang*; occasionally he omitted passages which did not exist (in the olden text), or which were faulty, and restored others which had been lost. But *Fei's* edition² was identical with the *Ku-wen*,³ and this scholar had studied the *Yh* of *T'ien Ho*, which with the commentaries formed twelve *pien*. So had done *She*, *Möng*, *Liang* and *Tsü Tung*, but without following the very words of *T'ien Ho's* commentary.⁴

49. *Yang Hiung* (B.C. 53–A.D. 18), the author of the famous *Vocabulary of Dialects* 方言, wrote the *T'ai hüen* 太玄經⁵ professedly in elucidation of the *Yh-King*,

¹ The text of Pan Ku gives only the names as *She*, *Möng*, and *Liang* Kiu, but we complete them from the 周易正義 in *Tai-Ping-yü-lan*, K. 609, f. 2.

² The late French sinologist, G. Pauthier, possessed in his own library an edition of the *Ku-wen* text of the *Yh*, printed in 1596, under the title 周易全書古文 in 2 *pien*. His valuable library having been broken up and dispersed everywhere, I have been unable to find this book. We have to regret that Pauthier could not follow his scheme of publishing it in facsimile. And so, too, we have to regret that he has not given somewhere a description of it. He only says that it was the text of *Fei-chi* (probably 費 直). Should this edition, be genuine, it would be of immense importance for our studies. Vid. Pauthier, *Journal Asiatique*, Sept.–Oct. 1867, p. 238, and Avril–Mai, 1868, p. 363.

³ Pauthier (*Journal Asiatique*, Sept.–Oct., 1867, pp. 236–238) has misunderstood all these passages. He has mistaken: 1°. the names of the two Emperors *Süan* and *Yuen* for the name of a commentator who never existed; 2°. The name of *Möng*, a commentator of the first century B.C., for the name of *Mencius*; 3°. he has made of *Liang-Kiu*, also a commentator of the Han period, two men; taking *Liang* as *Koh Liang* and *Kin* as *Confucius*.

⁴ Vid. 易說序.

⁵ His book in the *Tai-Ping-yu-lan*, is quoted as 楊雄易太元經.

but it is considered almost as obscure as the original classic. His views were upheld by *Se-Ma Kwang* (A.D. 1009-1086), and in recent times by *Tsiao-Yuen-hi*, but, after all, the result is unsatisfactory.¹

The application of the old theory of the two principles, *Yn* and *Yang*, Obscurity and Light, Female and Male activities in Nature (which has been lately carried through the whole *Yh* by Canon MacClatchie in his English version), had been made to the *Yh-King* during the first century B.C., as we have seen in the catalogue of Lin Hiang.²

Another celebrated commentary of the Han period was written by Tsiao Kan 焦贛.³

50. Almost everything has been sought for in the *Yh*, inasmuch as the unintelligibility of the text was an asylum for any freak of imagination. As early as the middle of the second century B.C. the *Yh* was connected with alchemy.⁴ The earliest work now extant on the practice of alchemy, according to Mr. A. Wylie, is the *Ts'an t'ung K'i* 參同契, from the hand of Wei Peh-yang 魏伯陽.⁵ This writer professes to discover the occult science hidden in the mysterious symbols of the *Yh-King*, but his book and his doctrine have been by common consent discarded by the literati. Many commentaries have been written on this treatise, the most important being under the Tang, the Sung and the Yuen dynasties.⁶

K'voh P'oh (A.D. 276-324), a famous scholar, commentator and expositor of the doctrines of the Taoist transcendentalism, also ventured an explanation of the *Yh-King*.⁷

The character 元 is for 玄, because the latter being the personal name of the Emperor K'ang Hsi, forbidden during the reign of the Emperor, was still left aside at the time of the reprint of the Cyclopaedia.

¹ *Vid.* Wylie, *Notes on Chinese Literature*, p. 69.

² Others are enumerated by Dr. J. H. Plath, *Ueber die Sammlung Chinesischer Werke der Staatsbibliothek aus der Zeit der D. Han und Wei*. München, 1868, 8vo. pp. 4, 5.

³ On this philosopher *vid.* Mayer's *Chinese Reader's Manual*, n. 839.

⁴ Many are indicated in Matwanlin, *Wen hien tung K'ao*, K. 175.

⁵ In the *Tai-Ping-yü-lan* it is quoted under the title of 周易 *Ts'an t'ung K'i*, which is the name given by the commentator P'ang Hian of the Tang period.

⁶ For more details *Vid.* Wylie, *Notes on Chinese Literature*, p. 175.

⁷ *Vid.* 郭璞易洞林.

51. Down to the time of the Wei dynasty 魏 (220-265 A.D.) the doctrines of *She-Ch'ou* and *Möng-Hi* had schools and were discussed. But at the time of the Western Tsin 西晉 (265-313 A.D.) the schools of *Liang Kiu*, *She Ch'ou* and *Kao* disappear;¹ those of *Möng-Hi* and *King-Fang* were still known by their books, but they were no longer taught. The teachings of *Fei-chi* were commented upon by *Chang-Hüan* 鄭玄 (A.D. 127-200),² under the Eastern Han dynasty, and later on by *Wang-Pi* 王弼 (A.D. 226-249),³ under the Wei dynasty. The latter was a scholar of high repute, and deeply versed in the mystic lore of the *Yh-King*; ⁴ notwithstanding the early age (24) at which he died, his erudition was such as to cause him to be looked upon in subsequent ages as the founder of the modern philosophy of divination.

52. The theories of *Wang-Pi* on the subject remained unchallenged until the period of the Sung dynasty, when a fresh school was founded by Chên-Hi-I 陳希夷 or Ch'en-Tw'an 陳搏 (who died about A.D. 920).⁵ This celebrated Taoist philosopher and recluse had devoted himself to the study of the arts of alchemy and the occult philosophy of the *Yh-King*. He is recognized by Chu-Hi as having founded the modern school of interpretation of the system of the diagrams.⁶ But according to the compilers of the Imperial edition, down to the time of Chu-Hi or Chu-Futze (1130-1200), the essence of the *Yh-King* had not been understood, and to this great philosopher is attributed the honour of having made it known to the great advantage of his compatriots. The *Yh* has been interpreted by Chu-Futze and his fellow authors of the Sung dynasty, as a treatise on morals, a directory for self-government and politics,—a view, however, which had been introduced by Cheng Futze. Though the great influence of Chu-Hi's commentaries

¹ *Vid.* 京房易傳, reprinted in the *Han Wei t'sung shu* collection.

² *Vid.* on these two celebrated scholars, Mayer's *Chinese Reader's Manual*, nn. 59 and 812.

³ *Vid.* 周易正義 in *Tai Ping yü lan*, K. 609, f. 2.

⁴ His book is entitled 周易略例, reprinted in the *Han Wei t'sung shu* collection.

⁵ *Vid.* Mayer's *Chinese Reader's Manual*, p. 245.

⁶ *Vid.* Mayer, *ibid.*

on the other classics, and the just recognition of his services to Chinese literature, have given to his views an undeserved repute, and have rather overshadowed the other systems of interpreting the *Yh*, the latter have by no means been silenced.

53. Writers of the present dynasty, such as Hwei-T'ing-ü, Chang-Hwei-yen and others, who have accomplished a positive advance towards freedom of thought in their study of the ancient books, have drawn attention to the old interpretations of authors who lived early in the Christian era. They regard the *Yh* rather as a book of fate. According to them it foreshadows the changes of the physical universe and of human affairs. It is the record of the unseen destiny that controls the prosperity and decay which belong to all beings and things. Its symbols are of so general a kind that they admit of various applications; but the most distinctly marked of these applications are to the accession of an emperor to the throne, and the distinction between the good and noble-minded man and one who possesses the opposite qualities. These more ancient critics lived very near the time of the disciples of Confucius, and are therefore considered to have been in a better position for ascertaining the real meaning of the book than later scholars. Some of them were Taoists, to which religion the happy obscurity of this book accommodates itself as well as to the Confucian.¹

54. These few sketches (§§ 42-53) are far from conveying to the reader's mind an idea of the multiplicity and variety of the native interpretations of the *Yh-King*. It would be an immense task, far beyond the scope of the present pages, to quote even the bare names of all those who, in China, have laboured on the mysterious book. There is scarcely any of the commentators of the Classics who has not endeavoured to propose new explanations on the whole or in details. Such is their number that in the last century (1772-1790), when the great catalogue for the library of the Emperor Kien-Lung was drawn up, no less than fourteen

¹ For part of this section see Dr. Edkins, *On the Present State of Science, Literature, and Literary Criticism in China*, reprinted from the *North China Herald* of March, 1857, in *The Chinese and Japanese Repository*, London, 1864, 8vo. pp. 29, 32, 63-69; cf. p. 67.

hundred and fifty different works on the *Yh* were selected for that purpose. How many more were forgotten, deliberately rejected or lost altogether!

No less than nineteen scholars of high repute for their commentaries or studies of the *Yh* have had their tablets erected in the Temple of Confucius.¹ These tablets are divided into four classes, viz.: 4 Associates, 12 Men of Genius, 79 Former Worthies, 66 Former Scholars. Among the 12 Men of Genius, the last is Chu Hi (1130-1200), the celebrated commentator, author of five works on the *Yh*, and of whom I spoke above. Among the 79 Former Worthies, the 9th is Shang Kiu (born 523 B.C.), above quoted; the 75th, Ch'ou Tun-i (1017-1073); the 76th, Chang Tsai (1020-1076); the 78th, Ch'eng-I (1033-1107), author of a great commentary; the 79th, Shao Yung (1011-1077). Among the 66 Former Scholars, the 10th is Tu Tze Ch'ün (about B.C. 50-A.D. 40), a commentator; the 12th, Ch'eng Kang Ch'eng (A.D. 127-200), a commentator; the 14th, Fan Ning² (339-401); the 18th, Fan Chung-yen (989-1052); the 31st, Lü Tung-lai (1137-1181), author of a commentary; the 36th, Ts'ai Ch'en (1167-1230), author of speculations for divination by the numbers of the *Yh*; the 38th, Wei Liao-weng (1178-1237), author of a treatise on the *Yh*; the 40th, Wang Pai (1197-1274), author of a commentary;³ the 43rd, Chao Fuh (1200-after 1251), who taught the *Yh* with the commentary on it by I-chu'an; the 44th, Hu Heng (1209-1281); the 46th, Wu Ch'eng (1247-1331), author of remarks on the *Yh*; the 53rd, Hsü kü jen (died 1485); the 54th, Ts'ai Tsing (1453-1508), author of a treatise called *Yh-King Meng yn* 易經蒙引, which is chiefly a selection of notes and commentaries with original observations, and which, printed by Imperial order in 1529, has since remained a standard work on the *Yh*.⁴ And

¹ See the excellent book of T. Watters, *A Guide to the Tablets in a Temple of Confucius*, Shanghai, 1879, 8vo.

² Fan Ning was opposed to magic and divination, and to all the vain heresies of his time; he wrote fiercely against Wang-Pi (above quoted), who during the preceding century had struck out a new system of divination for the *Yh*. See T. Watters, *O.C.* p. 107.

³ See T. Watters, *O.C.* pp. 169 and 181.

⁴ See T. Watters, *O.C.* p. 208, and pp. 28, 45, 66, 70, 76, 79, 97, 100, 107, 114, 147, 160, 167, 180, 181, 187, 205, and 207.

outside the temple, in the "Temple of Ancestors glorified as Sages," is the tablet¹ of Ts'ai Yuen-ting (1135-1198), celebrated for his erudition in general, and notably for his labours in elucidation of the text of the *Yh*.²

55. So little satisfaction was given by all these various schools or proposals of interpretation, and so inadequate were they to illustrate the few passages of the *Yh* which are by no means obscure, that this mysterious book is still avowedly not understood, and that we assist, now-a-days, at a most curious spectacle.³ There are not a few Chinese of education, among those who have picked up some knowledge, in Europe or in translations of European works, of our modern sciences, who believe openly that all these may be found in their *Yh*. Electricity, steam-power, astronomical laws, sphericity of the earth, etc., are all, according to their views, to be found in the *Yh-King*; they firmly believe that these discoveries were not ignored by their sages, who have embodied them in their mysterious classic, of which they will be able to unveil the secrets when they themselves apply to its study a thorough knowledge of the modern sciences. It is unnecessary for any European mind to insist upon the childishness of such an opinion. Even in admitting, what seems probable, that the early leaders of the Bak people (*Pöb sing*) were not without some astronomical and mathematical principles, which have been long since forgotten, there is no possible comparison whatever between their rude notions and our sciences. The latter imply a parallel knowledge of mechanical and industrial arts to which the Chinese have always been complete strangers.

¹ See T. Watters, *O.C.* p. 252.

² See Mayer, *C.R.M.* part i. n. 754.

³ P. Gaubil, *Traité de la Chronologie Chinoise*, p. 81, writes of the *Yh-King* that "the different parts which compose this book do not give any fixed chronology. Not that there have not been Chinese who pretended that they found a chronology in the *Y-King*, and even in the eight *Kwa*, but there is no foundation to be made in these Chinese systems of chronology which are based on the *Y-King*, for those persons have made an *Y-King* according to their own fashion."—Thomas Fergusson, *Chinese Researches*, Part I. *Chinese Chronology and Cycles* (Shanghai, 1880, 12mo.), pp. 24-25. This little book, made up of quotations, would have been valuable, had the author displayed more discrimination in the choice of his authors. Simple reviewers, literary essayists, and mere dreamers, are credited with the same authority as scholars and specialists.

VI.—THE EUROPEAN INTERPRETATIONS.

56. The European scholars in their translations, or attempts at translations, have not yet reached this last stage. They are still behindhand or strangely in advance. Many have written and speculated on the Kwas, but few have attempted the hard task and responsibility of getting up a version. Several illustrious Jesuits have translated fragments of the work. P. Premare has translated the first two chapters with their appendices.¹ The 15th chapter has been translated twice, once by P. Couplet and others,² and once by the great P. Visdelou.³ They have considered the heading 謙 *Kien* of this chapter as the real one, with the meaning *humility*, and have translated accordingly. Unhappily for the work done, the genuine object of the chapter is 兼 instead of 謙, so that all the interpretation built upon the latter falls to the ground.

57. We leave entirely aside the European speculations of the Kwas which cover a large ground, in almost every direction, magic, mystic philosophy, mathematics, natural philosophy, cosmogony, etc., and even music.⁴ Cosmogony holds the first rank, as far as number of supporters is concerned, such views being those of many commentators; but, as Dr. J. Edkins has rightly remarked, there is no cosmogony in these symbols; and we can say that there is no connexion whatever between the contents of the chapters and the symbolism attached to the hexagrams. In our opinion there is a connexion still to be explained, between the hexagrams and the

¹ *Notes critiques pour entrer dans l'intelligence de l'Y-King* (Bibl. Nat. Fonds Chinois, No. 2720), by P. de Premare.

² In *Confucius Sinarum philosophus*, Paris, 1687.

³ *Notice su Livre Chinois nommé Y-King, ou Livre canonique des changements*, avec des notes, by M. Claude Visdelou, Evêque de Claudiopolis, in the *Chou-King*, edit. P. Gaubil (1770), pp. 399-436. Reprinted in G. Pauthier's *Livres sacrés de l'Orient*, pp. 137-149. It had been written in 1728.

⁴ An enumeration is found in H. Wuttke, *Die Entstehung der Schrift* (Leipzig, 1875, 8vo.), pp. 247, 748, and in Henri Cordier, *Biblioteca Sinica*, vol. i. coll. 645-647. The two complete one another. Special papers or notes have been written by Martini, Leibnitz, P. Amiot, De Guignes, J. Klaproth, Abel Remusat, Seyffarth, W. Schott, G. Pauthier, J. Edkins, J. Haas, R. A. Jamieson, T. MacClatchie, Saint Martin, etc. *Vid.* also Neumann, in *Z. d. D. M. G.*, 1853, vii. 2, p. 144.

notched sticks of old, as expression of numbers and their use in belomancy.

In their speculations on the *Kwas* and the appended text, several German scholars are conspicuous for the special attention they have paid to the matter. We shall mention the old Mr. J. P. Schumacher,¹ of Wölffenbützel, in 1763, who fancied that the Y-King was nothing else than a history of the Chinese.² Dr. O. Piper (1849-53), in two papers,³ has considered it as the groundwork of a treatise on ethics in connection with the weak and strong lines of the hexagrams. Herr Adolf Helfferich (1868)⁴ has indulged himself in worthless speculations on symbolism and linguistics on the first thirty chapters of the Yh; in somewhat nebulous explanations he holds that the *Kwas* are the basis of the Chinese writing and are somehow connected with the system of the knotted cords or Guippos.

We shall have disposed of the fragmentary translations mentioned in the work of P. A. Zottoli, of the present day (Nankinese Mission), who has published⁵ a translation of a few chapters and almost all the appendices; the learned Jesuit was too great a sinologist to translate the text according to the farcical treatment of many Chinese commentators, and has displayed a praiseworthy wisdom in refusing to translate what cannot be translated, and being satisfied with few examples.

58. P. Regis and others have written on the whole text and commentaries a Latin version⁶ of great brevity and excessive literalness, made with the help of the Manchu version. They have considered each row of characters as a

¹ *Die verborzenen Alterthümer der Sinesen aus dem uralten Kanonischen Y-King untersucht*, von M. Joh. Heinrich Schumacher, Wölffenbützel, 1763, 8vo. pp. 208.

² *Vid.* Wutke, *Die Entstehung der Schrift*, p. 247.

³ *Ueber das I-King. Die texte der Confucius welche sich auf die verschiedenen Reihenfolgen des Kwa beziehen in Zeitschrift d. D. M. G.*, 1853, vii. pp. 187-214. — *Ueber das I-King, Die verschiedenen Bestandtheile des Buche u. ihre Verständlichkeit*, *ibid.* iii. 1849, pp. 273-301; v. 1851, pp. 195-220.

⁴ *Turan und Iran. Ueber die Entstehung der Schriftsprache*, Frankfurt-à-M. 1868, 8vo. pp. 184. (*Das Chinesische I-King*, pp. 108-184).

⁵ *Curus litteraturæ lingue sinica*, vol. iii. 1880.

⁶ *Y-King, Antiquissimus Sinarum liber* (written about 1736) quem ex latina interpretatione P. Regis aliorumque ex Soc. Jesu P.P. edidit Julius Mohl. 2 vol. 1834, Stuttgart, 8vo.

current text, but were driven to render it in broken and short sentences. They have accepted bodily, without any inquiry into its antiquity and genuineness, the rather modern tradition attributing the authorship of the text to Wen Wang and Ch'ou Kung, and of the appendices to Confucius. Having so fettered themselves at the very outset, they have received as genuine the few sentences where allusions to personal affairs of Wen Wang have been supposed; and this led them to assume that the text relates to the transactions between the founders of the Ch'ou dynasty and the last sovereign of the Yin dynasty, and is, thus, capable of being historically illustrated. The result has been to impress upon their minds ideas of meanings which have nothing to do with the original text; but as they were sinologists of great attainments, they have given their views on the question of veiled allusions in their running commentaries, while honestly translating the text separately word for word. Their version, however, was done on the modern *Kiai-shu* text, as amended and modified by successive transcriptions in the manner we have pointed out. And as they have not taken into account the ancient meanings of the characters, the result is unsatisfactory, and utterly unintelligible. The inexactitude of the views they have taken is exploded by their version itself.¹

59. The Rev. T. MacClatchie, of Shanghai, has published, in 1876, a complete English version, to which several allusions are made in the present paper. The learned missionary has not made any inquiries as to the origin and growth of the book. He has not distinguished the text from the appendices, and gives those which are intermingled with the text, as they are in the ordinary Chinese edition. He wanted to find in the Yh-King references to a cosmogony, based on the male and female principle of nature, and he has translated accordingly with Chinese commentators.²

¹ Dr. Legge (*Yi-King*, Preface, p. xv): "But their version is all but unintelligible, and mine (?) was not less so."

² *A translation of the Confucian 易經 or the "Classic of Change," with notes and Appendix*, Shanghai, 1876, 8vo. The same author had published *The symbols of the Yh-King (China Review, vol. i. pp. 151-163); Phallic Worship* (ibid. vol. iv. pp. 257-261).

60. M. P. D. F. Philastre, who has acquired during a long stay in the East a good practical knowledge of the Chinese, has undertaken a complete version which will appear in the *Annales du Musée Guimet*, vols. vi. vii. He has already given, a few years ago, a foretaste of his views in his curious book called *La Genèse du Langage et du Mystère Antique*. Here we see that the Yh-King is more mystic than anything else in the world; the speculations of the most abstruse metaphysics are not so deep as the mysteries embodied, according to this writer, in the Chinese book. The symbolism of astronomy, electricity, chemistry, etc., is carried to the extreme, and discovered in every separate and individual consonant, vowel and accent composing the sound of each Chinese character, rendered in the Latin alphabet according to the French pronunciation and transcription!

The following extract will give an idea of the result:—
"Premier diagramme, ou Koua, KHIÈN=raisonnement sur (') le mouvement du soleil autour de la terre cause de conviction sur (k) l'éclat (h) obscurci de la lune et la (n) lumière du soleil." (sic!)¹

The *Mystère Antique* (?) finds here its home, and the author thinks that he can illuminate this deep abyss. Speculations of this kind are beyond the limits of scientific research, and having no other ground than the imagination of the writer, are altogether foreign to our studies.

61. Now we come to the English paraphrase, not translation, lately published in the *Sacred Books of the East*, by Dr. J. Legge, the well-known author of valuable editions and translations (according to the commentaries) of several of the Chinese Classics.

The writer believes in the tradition of the authorship of the text by Wen Wang and Ch'ou Kung, and has endeavoured to justify it, but as the two quotations he gives, upon which this assertion rests, have proved (above §§ 14, 16, 17) not to bear this meaning, we have to consider it as a mere opinion which he has failed to support with satisfactory reasons. He

¹ Vid. P. D. F. Philastre, *Premier essai sur la Genèse du langage et la Mystère Antique* (Paris, 1879, 8vo.), p. 53.

rightly refuses to accept the part of this tradition which concerns the authorship of Confucius, but then why accept the first part? In disconnecting the text from the commentaries, as a necessary preliminary step to any understanding of the book, Dr. Legge follows the principle we had maintained previously.

With the prejudiced views of Wen Wang's and Ch'ou Kung's authorship of the text, Dr. Legge has, on the other hand, been strongly impressed by (1) the moral interpretations of Chu-hi; (2) the views of the Han scholars considering the book as a work of divination; and (3) the ideas of the first commentaries perpetuated by a long line of successors, to the effect that the system of symbolism of the strong and weak lines of the hexagram is followed in the sentences of the text. He has *combined the information*, and looking all along for allusions of these kinds, he has written an unintelligible paraphrase of each line of the text.

62. According to his views "the subject-matter of the text may be briefly represented as consisting of sixty-four short essays, enigmatically and symbolically expressed, on important themes, mostly of a moral, social and political character, and based on the same number of lineal figures, each made up of six lines, some of which are whole and the others divided."¹

These imaginary essays and their internal adaptation to the strong and weak lines (undivided and divided) must of course be made to match with the views of the adaptator; and it is quite curious to see how the simple principle of the weak and strong lines system is distorted, with the view of making it correspond to the guessed meanings of the artificial phrases when they disagree too obviously. Such a method is undeserving the attention of a man of common sense; it is a compilation of guesses and suggestions, a monument of nonsense.

63. Going through the interpretations of the *Yi*, as proposed by the Chinese themselves, and of which the late English paraphrase is a fair specimen, one cannot fail to be

¹ *Vid.* Legge, *Yi-King*, Introduction, p. 10.

struck by the stupendous effort it represents. It shows plainly all that has been done by the tortured minds of the Chinese, all the fancies of their maddened brains in their attempts to understand what could not be understood. We do not know really which is the greater wonder, the marvellous patience of a hundred generations of Chinamen in piling up distorted and fantastic interpretations, and building this extraordinary Babel of nonsense and ingenuity, or the courage of European scholars who believe in it and present the achievement of such an interpretation as a *bona fide* written book.

64. The so-called sixty-four essays comprising the *Yh-King* text are, as we have said, fantastic creations, the protracted work of generations of interpreters. If we remember what we have said several years ago, that the greatest number of these chapters are nothing but mere lists of the different meanings of the leading character which is the subject of each chapter, it is easy to conceive that several of these meanings are often connected, when they are the natural extension by the evolution of ideas of the primitive meaning. This connection is the explanation of the delusion under which so many interpreters of the *Yh* have laboured.

By a constant strain on the meaning of the characters and the help given to that strain by the addition of the ideographical determinatives, especially at the times of the reforms of writing, and a non-interrupted pressure on the connection of the text with the lines of the hexagram, the Chinese interpreters have succeeded in forcing upon the text, in numerous cases, appearances of meaning. But these shadowy meanings are unavoidably disconnected, and to admit that they match one with another, within and beyond the limits of each chapter, requires an amount of goodwill and oblivion of all previous notions on the meanings of the characters, which cannot be reasonably granted.

65. It is impossible to believe that a man, in his sober senses, has ever written such foolish things as those which the interpreters followed by Dr. Legge invite us to accept; and on the hypothesis, not of the authorship which we dis-

prove, but of the arrangement of the text by Wen Wang which we believe, we have to choose between two opinions,—either that he was of unsound mind, not the sage so highly praised by all the Chinese traditions, and that his confinement at Yu-Li had affected his intellectual power, or, what is more likely, that he did not understand the whole of the old slips he had in his hands. Occasional gleams of sense, and rectifications made very likely by himself, confirm the great probability of our explanation.

If Wen Wang had written the *Yh* for the purpose which later interpreters have attributed to him, how is it that the sages who wrote the appendices have not been able to agree on this point? This is a very serious objection against all interpretations based upon such a theory.

VII.—COMPARISON OF THE INTERPRETATIONS.

66. The number of special meanings and readings of characters in the *Yh-King*, suggested by commentators and adopted by interpreters, is enormous. In the greatest number of cases they have been made up for the occasion, and their *raison-d'être* is obvious. It was considered an absolute necessity to make them mean something *en rapport* with the other characters, and with a more or less far-fetched allusion to a good or bad, strong or weak fact, in connexion with the strong and weak lines. Their meanings have grown into currency by the process usual in such cases; suggested by one, quoted by another, repeated by a third, the meaning gains ground and thus at last becomes the *received* interpretation. Taking into account the general insufficiency of critical minds amongst the Chinese, this is the explanation required for the understanding what has happened in a great number of cases.¹

¹ We do not intend by this remark to give any support to the views of a great geographer, Dr. J. Bretschneider of Peking, when in his paper on Chinese geography (*Notes and Queries*, vol. iv. p. 4) he says: "My opinion is that the Chinese of the present day are nearly idiots and incapable of a sensible critique." My learned friend Dr. Bushell (*The Chinese Recorder*, Aug. 1871, p. 63, where I find the quotation) has already protested against so sweeping an appreciation. The great lack of the Chinese critics is the absence of the sense of perspective and comparative method, and their defect is to accept too easily anything said of

The influence of these interpretations has been great on the successive transcriptions of the text and wings, before they had been crystallized in the modern style of writing. All the substitutions, alterations and augmentations of the characters of which we have spoken in previous sections of this paper could be quoted here to exemplify these remarks. But the pressure on the characters has not always been accompanied by the modification required, and many curious examples of the results obtained could here be quoted.

67. As an illustration of what we are pointing out, we shall indicate the treatment which one of the simplest and commonest Chinese characters has been made to undergo. In the 38th chapter, which consists of a vocabulary of the character 癸 (and not 睽 as written in modern writing), the third line runs as follows: 見輿曳其牛掣其入天且剿.¹ etc., which are nothing more than five different meanings of 癸:

1. To see (*cf.* the modern character ideo-phonetic 睽).
2. To draw a chariot (*cf.* 睽).
3. An ox yoke.
4. It is in the Heavens (an opposition, *e.g.* of Sun and Moon, *cf.* 睽).
5. To slit the nose (*cf.* 癸).

It will scarcely be believed that in the commentaries 天 T'ien 'Heaven' has been interpreted by SHAVING !!!² and

old. But we Europeans have acquired our scientific methods only through many generations, and what was the western critic previous to this immense progress? I am not sure whether a considerable part of our western literature, even of the last few years, might not be judged by terms nearly as severe as those of the Russian physician.

¹ By a confusion of characters 人 is sometimes written instead of 入.

² *Vid.* K'ang-hi tze Tien, s.v. 天. It is interesting to see the efforts of commentators to make out this interpretation which occurs only once in Chinese literature, and this single case is this very passage of the Yh. Chu Hi and others have supposed that 天 has been written instead of 而, because of a certain resemblance of shape of the two characters in the *Chuen* style of writing, and that 而 'whiskers,' should represent 刮 'to shave the whiskers.' But this is impossible in palaeography, as the latter is a compound character made for this meaning; 而 could have an affirmative and not a negative meaning of the existence of its object. The older commentators, most likely by homophony with 尖, had suggested "to prickle the face, to mark the forehead." *Vid.* the dictionaries 字彙, 正字通, 經籍纂詁 K. 16.

this has been accepted by P. Regis, Canon MacClatchie, and Dr. Legge, without the slightest remark.

P. Regis translates: "Visum cum detinet; ejus boves moratur; illius hominis capillos radit; nasum proscindit. . . ." Dr. Legge translates: "In the third line, divided, we see one whose carriage is dragged back, while the oxen in it are pushed back, and he is himself subjected to the shaving of his head and the cutting off of his nose. . . ." (13 Chinese words=40 English!)

68. Some of these made-up interpretations are amusing enough to dispel the spleen. For example, in the eighth chapter, again a vocabulary, we have the meanings of 比. This character signifies mainly "to compare," "to put in juxtaposition," thence to be near, though separated, and by the natural extension of ideas it has been applied to the crack in a vase.¹ Although this secondary meaning does not seem to occur in several of the other classics, we have the proof that it is a very old one by the expression "cracked earthenware" 比輔 in the Siang chuen of the same chapter.

The rows 2, 3 and 4 of the characters in the text describe this meaning of the word as applied to a crack, in the following terms:—²

6-2—比之自內 'cracked from inside.'

6-3—比之匪入 'cracked, but not through.'³

6-4—外比之 'cracked outside.'

In P. Regis's translation,⁴ where meanings are attempted with the help of the Manchu version with but very few additions to the text, we find respectively:—

2—Ex intimis inire foedus.

2—Si, qui foedus init.

4—Ad extra foedus init.

Taking now the late English version, we immediately reach

¹ With this meaning it is now written 比皮, 比文.

² We neglect the fore-telling words 貞吉 added to the second and fourth sentences.

³ The last character of 6-3 is sometimes written 人 by a confusion with 入, but the parallelism of the three sentences do not allow of any mistake in translating.

⁴ See vol. i. pp. 323, 325, 327.

the height of fancy in the following phrases which are given as the translation of the seventeen Chinese characters above:—

2. "In the second line, divided, we see the movement towards union and attachment proceeding from the inward (mind)."

3. "In the third line, divided, we see its subject seeking for union with such as ought not to be associated with."

4. "In the fourth line, divided, we see its subject seeking for union with the one beyond himself."¹

Altogether fifty-seven English words for seventeen Chinese. And what a galimatias! What a marvel of tortured ingenuity! One is led to think that the native interpreters could not understand the crack in the text because of the crack in their brain.

69. So little reliance can be placed upon the translations hitherto published that it is difficult to find the same passage translated by two sinologists in an identical manner. And what is more curious is to see the same passages translated differently by the same scholar, as for example, passages quoted in the *Tso Chuen* translated there and afterwards differently in the version of the *Yh*. This is almost conclusive, and shows what a monument of fancy are the interpretations as last given to the *Yh*. But we do not want to find fault with one sinologist more than with another; it is not the individual work we are attacking, but the methods which have been followed.

We shall give a few examples of the discrepancies of translation. In the *Tso Chuen*, 1st year of Duke Chao (541 B.C.), there is a quotation from the *Yh* of Chöu.² The words chosen are taken from the second wing, the *Siang* (which is never quoted when the *Yh* of Chöu is not specified),

¹ See Legge, *Yh-King*, pp. 74, 75.

² The quotation from the second wing, as well as others of the same kind, show unmistakably that those wings (1st and 2nd) were considered as integral parts of the *Yh* of Chöu, and intermingled with the text. The tradition attributing the intermingling to Fei-Chi, or more likely to Tien Ho, is not very clear, and from an examination of the list extracted from the 'Former Han Records,' as well as from the quotation here noticed, it seems that the two arrangements, namely with and without, were equally adopted. *Vid.* above, § 47.

and from the 18th chapter: 風落山 "the wind falls on the mountain," which is translated in Dr. Legge's version of the *Tso Chuen*: "the wind throwing down (the trees of a) mountain."¹ In the present *Yh-King*, we find the sentence written as follows: 山下有風 "The foot of the mountain is windy," which in Dr. Legge's version of the *Yh* is translated: "(The trigram for) a mountain and below is that for wind, from Kû"!!! (Kû is the name for the Kwa).²

70. In the *Tso-Chuen*, 1st year of Duke Ch'ao, § 10. 2,³ we read, according to Dr. Legge, that the *Yh* of Ch'ou under the symbol 蠱, speaks of a woman deluding a young man 女惑男. Here we have the meaning assigned at that period to the beginning of the second line: 幹母之蠱; the same sentence which we find translated in P. Regis's version by "*curam habet infortunii matris*,"⁴ and in Dr. Legge's late version: "The second line, undivided, shows (a son) dealing with the troubles caused by his mother."⁵

Which of these three versions is correct? The last must be erroneous, because there is in it much more than the four Chinese characters can support. To choose between the meanings as given in the *Tso-Chuen* and the Regis version, would be a difficult task, but we are saved the trouble when we remember that the character 蠱 is one of those which Wen Wang has substituted, and that the old one was 蠱.⁶ Having discovered the proper character we are unable to find the proper meanings, and the whole chapter when translated, without introducing any theories or far-fetched ideas, resolves itself into a mere list of the meanings of the said character.

71. We cannot help recognizing that such, amusing as they may be, systems of translation are a dangerous game to play at, since they open the way to all the imprudences of imagination. Such a method, followed by several persons equally trained to its pursuit, cannot fail to produce the

¹ *Vid. Chinese Classics*, vol. v. p. 581.

² *Vid. Sacred Books of the East*, vol. xvi. p. 291.

³ *Chinese Classics*, edit. Legge, vol. v. pp. 574, 581.

⁴ *Y-King*, vol. ii. p. 16.

⁵ *The Sacred Books of the East*, vol. xvi. p. 95.

⁶ See above, § 39.

widest divergences in the case of almost every single passage.¹ So we have in the *Yh*, Chap. XVIII. 1-6, 幹父之蠱, which, translated as a phrase, gives, according to

Dr. Wells Williams,² "To follow a father's calling";

Dr. Legge,³ "A son dealing with the trouble caused by his father";

P. Regis,⁴ "Curam habet infortunii patris."

72. But this example is nothing compared with the strange phenomena we have quoted. We refer to the obvious proof given by the translation of the *Yh-King* by Canon MacClatchie, who has followed a method of his own, and has been able to produce a version consistent from beginning to end, but evidently wrong from its very departure. We have again an example of the consequences of the same process in the fragmentary translations of the *Yh* published by the French scholar, M. E. Philastre, whose ground is an obscure mysticism and symbolism, and is vitiated by the same radical fallacy throughout. And if we compare with these two the elegant but unintelligible translation lately published by Dr. Legge, we cannot fail to recognize the same inherent defect, with this difference, however, that the systematic views to which he has bent his translation are not properly his own, but only the consummation of the Chinese theories he has adopted from many commentators of the book.

VIII.—METHODS OF INTERPRETATION.

73. That the question of method is of primary importance in dealing with such a work as the *Yh* does not require any kind of demonstration.

We have seen that the classification, emendation, and rectification of the old slips or rows of characters, addition of many foretelling words, with an attempt at their adapta-

¹ Cf. below, the translations of P. Regis, Rev. MacClatchie, and of Dr. Legge, §§ 90, 93, 95, 97, 99, and 101.

² *Syllabic Dictionary*, p. 434.

³ *The Yi-King*, p. 95.

⁴ *Y-King*, vol. ii. p. 14.

tion to the strong and weak lines, or perhaps only to the upper and lower trigram of the hexagram, were in all probability the work of Wen Wang,¹ who wrote the commentary *Twan* which follows the first line of every chapter. The task was continued by his son Chöu Kung in his commentary *Siang* which follows the *Twan*, and each of the six lines of every chapter, where he attempts to interpret the meanings.

74. The author of the wing, the *Sü Kwa* 序卦, whoever he may have been, seems to have come very near understanding some parts of the text. But it is obvious that he was in some way fettered by the previous commentaries of Wen Wang and Chöu Kung. Moreover he could not conceive a fact so simple as the real one, namely, that the book is composed of mere lists of meanings of characters. Instead of looking to each chapter for the meanings of the character which heads it, he sought for its sound as it was at his time and place, and he has enumerated the meanings of its homophones.

The same process was partly employed by Wen Wang, and more extensively by Chöu Kung, and was continued in the commentaries after the time of the author of the *Sü Kwa*; many interpretations have been suggested by, and handed down from the early commentators by meanings suggested to them by homophones at their time and in their dialects, with the temporary phonetic equivalents: K=T, P=K, M=P, NG=T-K, Y=S, Sh=L, L=K, etc. This interesting feature, which is the clue to many curious suggestions, is inherent in the phonetic history of the language, as will be pointed out at its occurrence in my version.

75. The *Yh-King* has never been lost and found again more or less incomplete, as was the case with the *Shu-King* and the *Shi-King*, and was not, like them, exposed to losses and misreading under the process of decipherment. But it was subject in the fullest degree to all the inconveniences of transcribing the text in the new styles of writing, especially at the time of the Literary Revival under the Han period.

¹ A fact, began certainly previously to his time.

Many passages of a dubious meaning have been crystallized into a more determinate interpretation through the transcription in a more ideographic style of writing. In the case of a text which, as the appendices show, was so difficult to understand, it is obvious that the addition to the characters of ideographic determinatives (vulg. the keys) precisising their meaning, was a matter which depended entirely on the exactitude of the interpretation, and was altogether valueless if, as we know, the interpretation was often misunderstood.

76. We have seen in previous §§ (38-41) how long the process of substitution and modification of characters of the text had been going on, and from the numerical importance of these changes and additions we are able to appreciate how widely an exact transcription of the old text in Kiai shu (modern) strokes would have differed from the text as we now possess it. The original has been gradually modified by the transcribers in accordance with suggestions of meanings by the commentators, and significations obtained by a factitious and persistent pressure of the mind in search of allegories and tropes of speech. Such meanings were considered as satisfactory when they appeared to be supported by a temporary and local homonymy, in connection with the supposed thesis of the chapter and its division according to the strong and weak lines.

Notwithstanding these protracted exertions, how poor is the result! How disconnected are the meanings! What extraordinary fancies! How unreasonable it all is! It has been impossible to find any continuity in the chapters individually or in the series. All the efforts of the interpreters have proved fruitless, and the attempts of the late English translator result in total failure.

77. We have not here to consider the systems sought for in the *Yh*, which have had a great influence on the proposed meanings. Enough has been said of the native interpretations, and in what concerns the European ones, we are bound to recognize that such systematic views have had very little if any influence on P. Regis's version (leaving aside his commentaries), but, on the contrary, have strongly

swayed the versions of Canon MacClatchie, Mr. Philastre, and the paraphrase of Dr. Legge.

The *acmé* of these processes of interpretation is to be found in the *guess-at-the-meaning* principle of translation, of which the eminent missionary-Professor is a staunch supporter. He has endeavoured to justify his process of paraphrasing instead of literally translating, by the most obnoxious system ever found in philology. If this easy process were to be henceforth followed, as unhappily seems to be the case in recent translations, it would be destructive of all trustworthiness in any translation. In Dr. Legge's hands we are afraid this system has proved a very unsafe instrument. The learned sinologist thought he could trust it even in the case of an untranslatable text, because it had rendered him good service and facilitated his task in many passages of his translations of several of the other Chinese classics, where the context, the sequence of facts and ideas and the commentaries supported it.

78. Let us inquire in what consists this *guess-at-the-meaning* method, and on what ground it rests. "The great thing," we are told,¹ "is to get behind and beyond the characters, till one comes into *rapprochement* and sympathy with the original speakers and relaters." "We must try with our thoughts to meet the scope of a sentence, and then we shall apprehend it."² "In the study of a Chinese classical book, there is not so much an interpretation of the characters employed by the writer as a participation of his thoughts; there is the seeing of mind to mind."³

It is obvious that all this opens a door to any fancy of a translator, who will always easily imagine, in perfect good faith, that his mind (in its wanderings?) has seen the mind of the author he interprets. We must protest energetically against such a demoralizing doctrine, which would be the ruin, by the facility it presents, of all those who have the duty of translating any Chinese book. We should no longer

¹ By Dr. J. Legge, in his paper on the *Principles of Composition in Chinese*, as deduced from the *Written Characters*, in J.R.A.S. Vol. XI. n.s. 1879, p. 255.

² *Ibid.* his Preface to the *Yi-King*, p. xx.

³ *Ibid.*

be able to trust any translation without first comparing it word for word with the original. All confidence in the work of others, which is so necessary a factor in literary research, would be destroyed. By this system, the same text translated by two different persons will never give the same rendering; and, proofs in hand, we may say more, viz. the same text translated by the same person in two different moments will not be rendered with the same sense.

79. The written characters are the vehicle of the thought of a writer, and it is by an attentive study of these characters, their individual meanings, their place in a sentence, and the place of the sentence in the context, and by this only, that we can know what he meant, and express it in another tongue. The "meeting of the scope," "the seeing of mind to mind," are charming poetical expressions, but they have nothing to do, in that case, with a sound scholarship. Any one who translates a text must never forget that he has in his hands a *fidei commissum*, and that he will commit a breach of trust, in every case where he exposes himself to write his own views instead of those of his author.

80. The method of *guessing-at-the-meaning* is said to have been taught by the old Chinese philosopher Mencius (B.C. 372-289),¹ who laid down some such principles, in what concerns the 'Book of Poetry,' and that book only, because of the metaphors and figures of speech familiar to poets, and which are not to be taken literally, but as explained by the context.

We reproduce the whole section (as a part of it would not carry the same meaning), according to the translation of Dr. Legge,² as follows:

"Hien-k'ew Mung said, 'On the point of Shun's not treating Yaon as a minister, I have received your instructions. But it is said in the Book of Poetry,

'Under the whole heaven
Every spot is the sovereign's ground;
To the borders of the land,
Every individual is the sovereign's minister';

¹ *Vid.* bk. v. pt. ii. ch. iv. § 2.

² *Vid.* *The Chinese Classics*, vol. ii. pp. 228, 229.

and Shun had become emperor. I venture to ask how it was that Kao-aow was not one of his ministers.'¹ Mencius answered, "That ode is not to be understood in that way; it speaks of being laboriously engaged in the sovereign's business, so as not to be able to nourish one's parents, *as if the author* said, 'This is all the sovereign's business, and *how is it that* I alone am supposed to have ability, and am made to toil in it?' Therefore those who explain the odes, may not insist on one term so as to do violence to a sentence, nor on a sentence so as to do violence to the general scope. They must try with their thoughts to meet that scope, and then we shall apprehend it. If we simply take single sentences, there is that in the ode called 'The Milky Way,'²

'Of the black-haired people of the remnant of Chow,
There is not half a one left.'³

If it had been really as thus expressed, then not an individual of the people of Chow was left."

Comparing these two quotations from the *Shi-King* with the strophes from which they are extracted, and the explanations of the chatty Mencius, it is obvious that he has only pointed out that the poetical expressions of the *Shi-King* are not to be taken literally in mangled quotations. He has not laid down principles for the elucidation of all the classics, and in any case his principles have nothing to do with the *guess-at-the-meaning* principle.

¹ The whole strophe runs as follows (pt. ii. bk. vi. od. i. st. 2): "Under the wide heaven,—All is the king's land.—Within the sea boundaries of the land,—All are the king's servants.—The great officers are unfair,—Making me serve thus as if I alone were worthy."—Legge, *Chinese Classics*, vol. iv. pp. 360, 361. The writer means that as every one is equally at the sovereign's disposal, it is unfair for his great officers to make him serve, as if he was the only one to do it.

² Dr. Legge has taken these two phrases, beginning from "not insist," and and ending "apprehend it," as motto of his translations, vols. ii. iii. iv. v., but he has omitted the beginning, "Therefore those who explain the Odes," so that his mangled quotation does not carry the meaning intended by Mencius.

³ The whole strophe runs as follows (pt. iii. bk. iii. od. iv. st. 3): "The drought is excessive,—And I may not try to excuse myself.—I am full of terror and feel the peril,—Like the clap of thunder or the roll.—Of the remnant of Chow among the black-haired people,—There will not be half a man left;—Nor will God from His great heaven—Exempt (even) me. . . ." *Vid.* Legge, *Chinese Classics*, vol. iv. p. 530. The author apprehends future evils if the drought continues longer.

81. The views which I have disputed (§§ 77, 78), have been conceived under a grave delusion in regard to the old Chinese style. To hold that the written characters of the Chinese are not representations of words but symbols of ideas, and that the combination of them in composition is not a representation of what the writer would say, but of what he thinks,¹ is rather an exaggeration. It is only partially true of the book-language of to-day, which is nothing else but an abridgment, more ideographic than phonetic, of the spoken language with the extensive ornamentation in literary style of idioms borrowed from literature, history, etc. But the wide gap which exists now between the colloquial and the written language has not always existed. It has been widened and deepened progressively. At first the written language was the faithful phonetic reproduction of the spoken one. So true is this, that with the help of the laws of orthography of the period, we can transcribe the few old fragments we possess from their pure Ku-wen characters into modern ones, and that they correspond exactly to the spoken language. There are still indications of this remarkable fact, in the oldest chapters of the *Shu-King*, through their transcriptions down to the modern form of characters. This early style was subsequently modified, and the assertion of Remusat, inferred from the modern characters, that the Ancient style was sententious, vague, concise and disconnected, is not to be accepted without reserve. The ancient predominance of phonetic characters, single and compound, has gradually yielded place to a preponderance of ideograms. The official modification of writing by *She Ch'ou* about 820 B.C. for political purposes is a well-known fact. Once open, the gap has not only never been filled, but on the contrary has had an uninterrupted tendency to be widened by the continuous increase of literary idioms. Besides this, many words are still represented, in the book language, by characters of which the sound is now obsolete for the colloquial, the former having but seldom followed the phonetic decay of the latter, while

¹ *Vid.* Legge's *Preface* to his *Yi-King*, p. xv.

the modifications it has undergone during many centuries are very slight.

82. I hope that these lengthy discussions and explanations will be understood for what they are, viz. an attempt to define the situation, to clear the ground and justify the method I follow in my translation of the *Yh*.

It seems to me that it is mere waste of time to attempt a real and true version of the *Yh-King* without having laboured a good deal previously, in palæographical researches and linguistic studies, of which the European translators do not seem to have conceived the necessity and importance. A faithful version of the *Yh* is certainly not a matter of illumination, or inspiration, or of "meeting the scope" of the author. It can only be the result of patient and extensive researches. It cannot be obtained by the strained application of any preconceived theory, because the adaptation, classification and repetition, to which the text has been exposed, is obviously an after-arrangement, independent of what the text was originally. I repudiate altogether what I have called the *guess-at-the-meaning* principle as destructive of a true rendering, because the translator who follows it cannot help guessing "behind and beyond" the characters according to his prejudiced views. The attempt to translate the *Yh* by the *Yh*, i.e. by the idioms which have been introduced into literature from the supposed interpretation, is a danger which does not seem to have been hitherto perceived, and which I shall try to avoid. I translate literally, with no addition beyond what is required by the exigencies of grammar. This was the system followed by P. Regis, but he had not the help of palæography and linguistic studies. I desire to remain on the *terra firma* of scientific method, having found that, by this process, all extravagant and fantastic views are entirely ignored, and that a very simple and easily understood explanation of the text of the *Yh* is obtained. This old book has much more importance for the history of the Chinese language, writing, culture and people than has been supposed.

IX.—TRANSLATIONS FROM THE YH.

83. When considering the Chinese text of the *Yh-King*, as it now stands, the observer is struck with the frequent repetition throughout the book of a small number of different formulæ in one, two, or three words, the whole being obviously the foretelling words subreptitiously added by Wen Wang when he arranged, without understanding their real character, the ancient slips he had in hand.¹ There is no doubt that these words did occur here and there in the old texts, previously to Wen Wang's arrangement, and that he has mistaken their proper primary value in the context; he has considered them as foretelling words, and repeated them in every section of the book.

84. Such formulæ as 无咎, 无悔, 无吉, 贞吉, 终吉, 利贞, which occur very often,² and 有终, 有孚, which are met with less frequently, are almost always foretelling words added afterwards; of course they have to be neglected in a translation bearing on the old text only. The formula 无悔³ is sometimes uncertain, because the character 悔 has been substituted⁴ for 每 in all the cases where this last occurred in Wen Wang's text, and consequently cannot be distinguished any more from the cases where 悔 did occur previously in the genuine text. The oldest shape of 悔 was 每 before Wen Wang's time.

85. A remark is also necessary on the character 利, which in the interpolated foretelling formula has the meaning of "benefit"; but the same form is the oldest one of 黎 "many, numerous," which did occur in the ancient text, but because the character has the other meaning of fortune telling, it was not recognized by the transcribers in modern style with its

¹ "He added and subreptitiously introduced the foretelling words, . . ." *Vis.* above, § 13, quotation (i).

² On an interesting coincidence presented by several of these foretelling words with Assyrian ones, *vis.* my *Early History of Chinese Civilization*, p. 25.

³ 無 *wu* 'not' as used in the *Yh* is always written 无, a variation first introduced by the followers of Lao-tze and Chwang-tze. *Vis.* Tai Tung, *Luh shu Ku*; L. C. Hopkins, *The Six Scripts*, a translation (Amoy, 1881, 8vo.), p. 35.

⁴ Cf. Min tsi Ki, *Luh shu tung*, K. vii. f. 48.

meaning of plurality, and in consequence not rewritten 黎, as it ought to have been.

Other foretelling words are 凶, 貞, 吉, etc., which occur very frequently and are evident interpolations. The same is most likely to be said of 元 "primary," "original," sometimes joined to one or two of the above quoted characters.

We have, moreover, to mention here 亨, which occurs about fifty times. It is placed in twenty-nine cases immediately after the character which forms the subject-matter of the chapter, and is ten times preceded by 元. It denotes "to pervade, to go through," and seeing that it precedes the enumeration of the various acceptations of the head-words of the chapter, it is this character we should have expected to find in order to suggest "meanings" or "significations," to which it corresponds plainly.

86. It might be useful to repeat once more that the result of our studies is that the *Yh-King* has been made up of various documents of very ancient date, of which the contents were forgotten, or misunderstood, and in consequence considered as a book of fate, for which purpose many foretelling words, according to the Chinese tradition, were subreptitiously introduced and interpolated in the old rows of characters.

87. In order to demonstrate all that has been stated and unravelled in the preceding pages, we must go through several chapters of this mysterious classic. As the vocabulary-chapters are the most numerous, we shall give the English version of a few of them, and then of a chapter in which is embodied an old ballad relating to an historical fact of the twenty-second century B.C. We shall conclude with an anthropological chapter speaking of Aboriginal Tribes.

This translation is not to be considered as definitive, and is very far from the comparative stage of completion to which it should be carried out. It is only an outline showing how the book has been made up and what materials are gathered in it. More precise meanings, in many cases, might be found in order to obtain more accuracy, and I dare say the result would be still more satisfactory in corresponding acceptations and meanings than those given below.

88. The choice of the seventh chapter was indicated to us as a specimen suitable to show the genuineness of our views about the vocabulary chapters, by the importance given to it by the last translator of the *Yh*, Dr. J. Legge. According to the Rev. Professor of Oxford, who has repeated his translation of the chapter in his Introduction as "a fair specimen" of what he calls "the essays that make up the *Yê* of *Kân*,"¹ "so would," he says, "King Wăn and his son have had all military expeditions conducted in their country 3000 years ago. It seems to me that the principles which they lay down might find a suitable application in the modern warfare of our civilized and Christian Europe. The inculcation of such lessons cannot have been without good effect in China during the long course of its history"²!!! No other result but insanity could be produced by this supposed essay, as well as by all the others which, as we said, are of the same kind; as our readers will judge, in the perusal of what is supposed by the said Professor to be the genuine meaning of the text. For this purpose we reproduce, in smaller type, his translation, with those of the Rev. MacClatchie and P. Regis, in parallel columns, juxtaposed to the English equivalents we give with the text. In an intermediary column, next to the Chinese text, and as a proof of the exactitude of our rendering, we have placed the characters in their ancient³ and modern forms, which in the vocabularies are successively described.

The rendering of the foretelling words, as we have said above, is left blank.

89. Before passing to the rendering of the said chapter on 師, let us peruse the various acceptations of this word in those of the classics published in English by Dr. J. Legge, through the valuable indices he has framed for them.

¹ *Sacred Books of the East*, vol. xvi. Introd. p. 25: "The subject-matter of the text may be briefly represented as consisting of sixty-four short essays, enigmatically and symbolically expressed, on important themes, mostly of a moral, social, and political character, and based on the same number of lineal figures, each made up of six lines, some of which are whole and the others divided." *Ibid.* p. 10.

² *Ibid.* p. 25.

³ Written in modern strokes, in Kiai-shu or pattern-writing, for the sake of convenience.

In the *Shu-King*,¹ we find the following acceptations :

(1) The multitudes, the people ; all.—(2) A capital city.—(3) An army, a host.—(4) Instructors.—(5) Applied to various officers, . . . tutors, a high office appointed by Yu, . . . judges.—(6) A model, to take as a model.

In the *Shi-King* :²

(1) A multitude, all.—(2) Forces, troops.—(3) 京師 the capital.—(4) Master.—(5) Various officers.—(6) To imitate.

In the *Chun Tsin* :³

(1) An army, a force, etc.

In the “Great learning,” the “Doctrine of the Mean” and the “Conversations of Confucius” :⁴

(1) The multitude, the people.—(2) A host.—(3) A teacher.—(4) Sundry officers, etc.

In Mōng-tze (Mencius) :⁵

(1) A military host.—(2) A teacher, master.—(3) To make one's master, to follow.—(4) Sundry officers.

We will now proceed with the version :

(See § 90 printed on the accompanying table.)

91. If the reader compares the description given in our version of the various acceptations of the word 師 *Sze* (made clear by the necessary remarks in the foot-notes, with the extracts of vocabularies of several classics on the same word which we have reproduced above (§ 89), he will be struck by the perfect correlation, and be satisfied that our statement is sound, viz. that the *Sze* chapter is made up of the slips containing the vocabulary describing the word. All the remarks, which we have to make of unavoidable length, are *mutatis mutandis*, applicable to the other chapters.

92. The following chapter, of which we give the version, is the fifteenth relating to 兼, which has been completed later on by a determinative and written 謙, as we have reported above (§ 39) from an ancient tradition.

The use of this character, with the proper determinative,

¹ *Vid.* Legge's *Chinese Classics*, vol. iii. p. 672.

² Vol. iv. p. 711.

³ Vol. v. p. 902.

⁴ Vol. i. p. 333.

⁵ Vol. ii. p. 429.

has been extended to a large number of acceptations, but in early times, the various meanings attached to it were rather small.¹ The author of the re-arrangement had therefore to repeat several of them, in order to fill up the required number of lines.

The most interesting feature is the quotation about the spoonbill or *Platalea major*, an interesting bird which occupies a large place in Chinese literature from an early period. It is described in the *Cet-ya*, *Shan Hai King*, and was "a strange bird like a duck, the paired-wing bird, with one eye and one wing, affiliated to the plaice in its structure, and so made that two must unite for either of them to fly." It is still found in Formosa.²

Here is the version of the chapter :

(See § 93 printed on the accompanying table.)

94. No observations are required on the following chapter, the xxxth, on 離 of which the primary orthograph was 離 as we know by palæography. The author of the re-arrangement had not the same difficulties for the separation of the rows of characters into the seven lines, because of the great number of acceptations. He was obliged to put them up one after the other, not always separated by the word 若 or 如 "like." The same thing occurs several times in other chapters.³

In the last section of this paper we shall have to speak again of this chapter.

Here is the version :

(See § 95 printed on the accompanying table.)

96. The following chapter translated, the thirty-first, on 威, which is also a vocabulary, does not present so many meanings as the preceding, and it was not necessary to pile them up to the same extent. Besides, the meanings to be

¹ They are only those represented by the character itself with the determinatives (or keys) 38, 43, 61, 85, 149, 154. Cf. Min tsi Ki, *Luh shu tung*, K. iv. ff. 67, 68; K. viii. f. 46.

² Vid. *Tai Ping yu lan*, K. 927, f. 2v. *Khang-hi Tze-tien*, Pu 196+10 str. f. 73. And also Wells Williams, *Syllabic Dictionary of the Chinese Language*, p. 382. Mr. Rob. Swinhoe had caught several of those birds at Tamsui, Formosa; vid. a notice of his in *Notes and Queries on China and Japan*, vol. i. p. 131 (Oct. 31, 1867).

³ For instance, chapters iii., xxii., xxxv., etc.

described were of peculiar difficulty in order to make the difference in the material and moral use of several of them intelligible. The meanings under i.-1, vi.-2, ix.-5, and upper 6, which are the various aspects of *one* same meaning, afford an interesting instance of the trouble taken by the original framers of the vocabulary to cope with the difficulty of making them clearly understood.

The character 咸, of which the ancient sound was *Kam* (or *Kom*), is a compound character which meant "to bite," and in its primary stage of symbolico-syllabism was written 𪛗^{-m⁰⁰_{Ko}} to be read from bottom to top.¹ *Kom* meaning "mouth hewing" *i.e.* "to bite" extended afterwards to the sense of "to seize, to shake, to move."

Ten foretelling words have to be dropped throughout the chapter.

(See § 97 printed on the accompanying table.)

98. We hope that the preceding versions of four chapters will be considered as sufficient to exhibit the disposition of the chapters of the *Yh* made up of mere vocabularies. We shall now give an instance of a chapter in which has been embodied what we may call a ballad relating to an historical fact of the twenty-second century B.C., *viz.* the revolt of *Kwan*, the youngest son of the Emperor *K'i*, at the place of his exile (in modern Chih-li), where he had been sent most likely after intrigues which we may easily guess.

Here is the translation of this chapter, which treats on 觀, and which is the twentieth of the sixty-four chapters of the *Yh*.

(See § 99 printed on the accompanying table.)

100. The following and last chapter, of which space permits us to give the version in the present paper, is entirely ethnographical. It is the thirteenth in the series of the *Yh*, and it deals with the Troglodytes or Tribes which formerly occupied several large regions in China previously to the Chinese conquest, and of whom sundry off-shoots still survive in rather out-of-the-way places inside and outside the Chinese dominion. When our complete translation is published, we

¹ According to one of the laws of archaic orthography. *Vid.* § 23, note 2, p. 19.

shall give all the possible information on the subject in order to get the desired identification. The manners and customs of these tribes correspond precisely with those described in the *Yh*, and many of them have kept the same name, variously written 洞 洞 崗.

Here is the translation:

(See § 101 printed on the accompanying table.)

102. An interesting feature of this chapter is the remarkable proof it offers of the late addition of the foretelling words. The chapter is in verses, and the rhymes are easily recognized; 野 with 子; 川 with 門; 宗 with 葬; 陵 with 興; 塘 with 攻; 咷 with 遇; 笑 with 郊. So that the foretelling words are no part of the ancient text, and have to be left aside; they are: 亨, 貞, 无 咎, 吝, 吉, 无 悔. This is, I think, a very satisfactory demonstration.

X.—CONTENTS FORGOTTEN OF THE YH.

103. In observing for our version of the *Yh-King* the principles of criticism laid down in the preceding section, we have been able to discover these remarkable facts,¹ that, in many chapters, the multifarious indications given by the characters in rows or isolated, are, within the chapter, just the various meanings more or less completely existing still and found in literature, of one ideographic character or expression represented more or less exactly by the modern heading of the same chapter.² These lists of values are occasionally accompanied by mythical, historical, geographical, ethnographical, ethical, astronomical, etc., references. Descriptions of aboriginal tribes of China; their customs, the meaning of some of their words, homonymous to the Chinese word which is the subject of the chapter, instructions to the officials about them, description of animals, birds, commercial and vulgar values, etc., are given as far as they exemplify the Chinese word.

104. The *Yh-King* has obviously been compiled of various old

¹ *Vid.* my *Early History of the Chinese Civilization*, p. 25.

² Excepting the alterations voluntarily introduced since.

materials of different sorts and styles, which, misunderstood, have been arranged, classified, divided in lines, corrected and completed by the addition of many of the foretelling words which have been interspersed in the text.¹ Short sentences and rows of characters have been, with the help of the changes of writing, strained into meanings supposed to have been expressed by Wen Wang, the presumed editor of the book, and related to the immediate period previous to him, but with which they had originally no connection whatever. An interesting feature is, to be able to detect how, from independent rows of characters, not intended for the purpose, the correspondence which seems to exist between the contents of the chapters and the six whole and broken groups composing the sixty-four hexagrams or Kwas of the same number of chapters was obtained. A brief examination of the whole easily explains the process by which the regular classification and division into the desired number of 64 chapters of 7 lines has been got up. In the case of words having an insufficient number of meanings to fill up the required seven lines, the same meaning is repeated sometimes variously, as often as necessary; in reverse cases, the meanings have been strung together one after the other like a thread of beads; and as the subject-matters were not of the required number of 64, several have been cut in two, and a few more modern texts have been added.

105. The *Yh-King* seems to have been arranged at first under the Hia dynasty (2205-1766 B.C.); and when it reached the hands of Wen Wang, it was already used for divination. Its broken and numerous meanings progressively misunderstood by the changes occurring in the language, the growth of the dialects and the discrepancies introduced in the writing by oblivion of the old rules of orthography, had made of these ancient documents a very suitable reference to pick up prognostics. The text had been connected with the 64 Kwas, and every chapter divided most likely into two parts, in order to correspond to the two trigrams of each hexagram.

¹ *Vid.* above, § 1.

Wen Wang in 1143 B.C. subdivided the text and modified it as we have seen, he added as an explanation of his rearrangement the first wing beginning with 彖曰 *Twan says*, and his son Chöu Kung added in turn, the second wing beginning with 象曰 *Siang says*, in the ordinary editions of the *Yh*.

106. To resume the question, the text of the *Yh-King* is nothing else than a general vocabulary of a small number (about 60) of words and expressions. And, no doubt, the impossibility of reading^a as current phrases and text, simple lists of meanings [as if we should try to read Johnson's Dictionary as we would read a novel], accounts for the absolute obscurity of the book and the astounding number of interpretations which have been proposed by native Chinese scholars, a path in which they have been uselessly followed by several European Sinologists.

107. The *Yh-King* is not the only book whose fate has been to be misunderstood. Many of the Vedic hymns have had their primary object and views entirely turned away. In Japan, too, we have a very striking example, to which we shall refer presently. But the *Yh-King* is the only one which, having to be transcribed several times through successive changes of writing and the improvement of characters in order to precise their sense, has been exposed to all the consequences of the process and has accordingly suffered.

108. The Japanese example is sufficiently striking to be placed side by side with the protracted misunderstanding of the *Yh-King*, though not with the gradual and eventual transformation of the text of the Chinese mysterious book. The *Nihongi* has met the same fate of a forced interpretation, which afterwards was recognized as the result of an improper intelligence of the style in which it was originally written. The *Yamatobumi* 日本書記 or *Nippon-syo-ki*¹ (vulg. *Nihongi*), containing the oldest history of Japan, from 661 B.C. till 696 A.D., was published in 720 A.D. as manuscript in thirty

¹ These two readings illustrate the two modes of reading the Chinese characters in Japan, according to their sound (*Koye*) or to their meaning (*Yomi*). Cf. J. J. Hoffmann, *A Japanese Grammar* (Leiden, 1868, 8vo.), p. 4.

parts. It was worded in Chinese and written in Hing-shu 行書 or running hand Chinese characters.¹ At that time Chinese composition was extensively used in Japan, but afterwards since the period Yengi (A.D. 901) intercourse with China ceased and no more students went to that country, so that finally a peculiar Japanese style of Chinese composition arose, in which the characters were not read in the same order as they were written. Those coming first in order when writing a sentence being placed at the end of the sentence in reading; the characters forming no complete meaning if read as they were written. This hybrid style is in use at the present time for epistolary correspondence and for government documents.² In order to avoid any misunderstanding, in modern texts special small signs are placed on the lower left hand side of the Chinese characters to indicate the transposition required. The *Nihongi*, as other books of the same time, being written in Chinese, "the unlettered could not understand it without explanation. Hence there existed in the middle ages rules for the interpretation of this history, and gradually it came to be considered as a religious work on Shintoism. Both Shinto and Buddhist priests explained it as a work on Confucianism or Buddhism, so that at last incorrect opinions and statements were formed, with which the ignorant were misled. Owing to the frequent wars, however, these doctrines were neglected, and at last there were none who believed in them."³ Eventually, eight hundred years after (since A.D. 1688-1703), the erroneous opinions of the scholars of the middle ages were corrected, and the proper reading of the ancient texts was recovered.

109. What happened to the illustrious German philosopher Schöpenhauer, with the first imperfect and misleading version of the Upanishads,⁴ might be quoted as another instance of

¹ Hoffmann, *Japanese Grammar*, p. 5.

² Vid. *An Outline History of Japanese Education, Literature and Arts*; prepared by the Mamkusho (Department of Education), Tokio, Japan, 1877, 12mo. p. 145.

³ *Outline History of Japanese Education*, p. 146.

⁴ The first version of the Upanishads made into any European language was by

an important work misunderstood, and nevertheless satisfying somehow minds fond of nebulous statements in which their imagination could freely exercise itself.

XI.—ORIGIN OF THE YH-KING.

110. Proofs of various kinds: similitude of institutions, traditions and knowledge, affinities of words of culture; and in what concerns the writing: likenesses of shapes of characters, hieroglyphic and arbitrary, with the same sounds (sometimes polyphons) and meanings attached to them, the same morphology of written words, the same phonetic laws of orthography, had led me, several years ago,¹ to no other conclusion than that (as the reverse is proved impossible by numerous reasons), at an early period of their history and before their emigration to the far East, the Chinese *Bak* families had borrowed the pre-cuneiform writing and elements of their knowledge and institutions from a region connected with the old focus of culture of South-Western Asia.²

The similarities in shapes, sounds, and meanings of characters³ show that the borrowing was done at the period when

the famous traveller Anquetil Duperron, from the Persian; he seems to have made both a French and Latin translation, the latter alone having been published (A.D. 1801-1802). It was written in a style utterly unintelligible except to the most lynx-eyed of philosophers. Amongst these, the celebrated Schöpenhauer distinguished himself by his open avowal: "In the whole world there is no study, except that of the originals, so beneficial and so elevating as that of the 'Oupnekhat.' It has been the solace of my life, it will be the solace of my death." It is difficult to understand how the translation of Duperron could provide this double solace. The opening words of his translation are these: "*Oum hoc verbum (esse) adkit ut sciveris, sic Jō maschgouli fac (de eo meditare) quod ipsum hoc verbum aodkit est; propter illud quod hoc (verbum) oum, in Sam Beid, cum voce altā, cum harmoniā pronunciatum fiat.*"—Vol. i. p. 15.

¹ *Vid.* the bibliographical information in § i. n. 1 of the present paper.

² The late period of the extension is shown by the state of oblivion in which the early Chinese Bak families were, in regard to the primitive meaning of many characters, their mistakes on that subject, and the many later notions from Babylonian arts and knowledge which they had borrowed at the same time. The peculiarities of the connexion of the archaic Chinese characters and the Babylonian writing, for instance, in the case of the cardinal points, show unmistakably that the borrowing was not made before the Semitic influence took the lead over the Akkado-Sumerian sway.

³ When I pointed out in May, 1880 (*Early History*, p. 29), the shifting of the points of the compass, I did not hope that this statement would so soon receive a brilliant confirmation, from the Assyrian side. Cf. the decipherment of a tablet secured by the British Museum, July 27th, 1881, by Mr. T. G. Pinches, *Proceed-*

the Cuneiform strokes already introduced were not yet exclusively used to draw the characters, straight and curved lines being still used at the same time, and the introduction of the wedge-shaped implement had not effaced the pictographical forms of the signs.¹

111. The comparison of the two writings discloses several other interesting features not unimportant for the historical determination of this remarkable propagation of culture.

1°. The writing was communicated with all its peculiarities and complexity of ideograms and phonetics, the latter keeping their sounds, and the former receiving sometimes new appellations in the language of the borrowers according to their picture-meaning.

2°. The characters were still in the plastic stage which allows a certain range of alterations and occasional variations, for the facility of the compound characters.²

3°. Many characters were still pictographic, but a great number had lost their original hieroglyphic shape and had assumed apparently arbitrary forms.

4°. The writing had not been drawn at first by an oblique-eyed people.³

5°. The facing process, upwards or downwards, of drawing the pictographic characters, had been preferred as often as

ings of the Society of Biblical Archaeology, Feb. 6th, 1883. The great importance of the fact is that it gives a hint on the date of the extension of the writing from S.W. Asia to China, and a clue to the Zodiacal difficulty which Dr. G. Schlegel has tried to solve in adding 17000 years, which are now unnecessary. My remarks on the subject and the comparison of the pre-Cuneiform and archaic Chinese writings are embodied in a special paper: *Illustrations of the Pre-cuneiform writing carried to China*.

¹ This is shown not only by some early Chinese characters containing such strokes, but also by various traditions speaking of strokes broad at one end and pointed at the other. We have, however, to take into account the change in appearance of the characters, caused by the use of another material than the clay tablets and of another tool than the triangular-shaped one used for the impression of the cuneiform strokes.

² A comparative analysis of the compounds in the early Cuneiform characters discloses this parallel fact; it is also a feature of the so-called Hittite characters, which on the inscriptions are modified according to their position, in opposition to the rigidity of the Egyptian hieroglyphs more early crystallized.

³ This is shown by the fact that in the earliest compounds where the eye occurs, and which by their close shape could not be disintegrated, and were taken as ideographs, the eye is *horizontal* and has been drawn obliquely afterwards only, in the new compounds, and in isolated characters. Besides this, two obliques eyes mean 'a frightened look.'

possible to the profile process,¹ probably to avoid the boustrophedon.

6°. At the time of its propagation to the Chinese Bak families, the pre-Cuneiform writing was disposed in horizontal lines, but it had been written previously horizontally and vertically,² according to the size of the characters as in Egyptian and so-called Hittite hieroglyphs.³

7°. The borrowers, perhaps in imitation of the knotted cords and notched rods previously used by them, disposed the writing in vertical lines instead of horizontal, and for that purpose had to put up the characters single or compound not easy to disintegrate, which had too much width for the regularity of the lines. The putting-up of the pictographic characters was ruled by the figure of their subject.

8°. In the script borrowed, the characters were used phonetically in the formation of compounds, without neglecting their ideographic values, which were taken into account

¹ In opposition to the Egyptian and Hittite process.

² This is shown by the great number of high signs put lying down, and as this was done according to the direction of the writing and the figure of their object, some of these, when phonetic compounds, have to be read reversed, *i.e.* from right to left.

³ The special study I have made of this pre-Cuneiform writing permits me to say that it seems to have had at first an imperfect connexion with the Egyptian (the connexion is still visible by their common possession of characters also found in the writing borrowed by the Chinese); but it bears unmistakably the mark, previous to the later Semitic influence, of a serious modification. The shape of the characters, in cases of isolated or compound ones easy to disintegrate, has been rectified in order to have them facing to the reader (a feature common to this writing and to the Chinese), in contradistinction to the profile feature of the Egyptian and Hittite hieroglyphs. This rectification seems to point to the wish of avoiding a boustrophedon system of writing (necessitating two directions for the characters), as in the Hittite characters and partially in Egyptian. The direction selected has been from left to right, most likely because it was previously more often used as in Egyptian. Afterwards the process of horizontal lines superseded the older one, which, as in Egyptian, had regard to the comparative size of the characters. A great number of the characters in their hieratic shape bear testimony to these facts. The laying down of the too-high-sized characters was ruled by the nature of their figures, and, in other cases, either because it had to be done somehow or according to rules which I have not yet detected. Simultaneously with these rectifications, which may be attributed to newly arrived conquerors, the characters received new sounds, appellative of their subject or what was thought to be their subject, in the language of the new comers. That they were the population known by the names of Akkadian and Sumerian is more than probable. As the borrowing of the writing by the Chinese Bak families is posterior to all these facts, it was necessary to outline them.

and ruled their selection; their reading was from left to right or from top to bottom.¹

All these facts are largely proved by a great number of comparisons and observations, which I give elsewhere with the necessary illustrations.

112. Numerous affinities of traditions, institutions and customs, connect the borrowing of script and culture by the Chinese Bak families, with the region of Elam,² the confederation of states of which Susa was the chief town, and the *Kussi* the principal population.³ What are the historical facts of this connection we do not know. Has the break up which happened in those states and resulted in the conquest of Babylonia by the Elamite King, Kudur-Nakhunta, at the date, which is certain, of 2285 B.C.,⁴ been also the cause of an Eastern conquest and a settlement in Bactria? And would this account for the old focus of culture coeval with the earlier period of Assyrian monarchy said to have existed in Central Asia?⁵

The two ethnic names, which, as we have pointed out,⁶ were those of the future Chinese invaders, *Bak*, and *Kutti* or *Kutta*, are not altogether foreign to these regions; the

¹ The facts enumerated in 7°, 8°, are proved by the early Chinese characters where the phonetic reading goes, (a) when unchanged in direction, from left to right; (b) when put up from the right, from bottom to top; (c) when put up from the left, from top to bottom. *Vid.* § 23 above.

² *Vid.* my *Early history of Chinese civilization*, pp. 27-32, where several of these affinities are quoted.

³ It is most desirable that regular excavations should be made in this region, as most undoubtedly they would lead to very important results. Unhappily it remains almost unexplored.

⁴ *Vid.* J. Oppert, *Les inscriptions en langue Susienne, Essai d'interprétation*, in *Congrès des Orientalistes*, 1re session, vol. ii. p. 179 (Paris, 1876, 8vo.). A. H. Sayce, *Transactions of the Society of Biblical Archaeology*, t. iii. p. 465. G. Maspero, *Histoire Ancienne*, p. 168. The date is given by an inscription of Assur-ban-abal. On recent discoveries in Chaldea, see the valuable article *Chaldean Explorations*, on the general results of M. de Sarzec's discoveries at Tello, published by *The Times*, May, 25, 1882. Cf. W. S. W. Vaux, *Fifty-ninth Annual Report to the Royal Asiatic Society*, pp. cxi-cxiii (London, 1882, 8vo.).

⁵ An illustrious scholar, deeply acquainted with the history of these regions, Sir Henry Rawlinson, has collected the probabilities and traditions (in the absence of historical records) of Bactria, as a focus of culture coeval with the institution of the Assyrian Monarchy, in his remarkable article on *Central Asia* in the *Quarterly Review*, Oct. 1866.

⁶ *Vid.* *Early History of Chinese Civilization*, p. 32. *Kutta* or *Kutti* is the archaic reading of *Hia*. *Bak* is the old sound *Pōh* from *Pōh sing*, the *Pōh* or *Bak* families, commonly rendered by "Hundred families."

Chinese *Kutti* and the *Kussi*, the Chinese *Bak* and *Bakh*, the ethnic of Bakhdi¹ (Bactria), will be, most likely, one day proved to be the same ethnic names. Had not the Chinese, previous to my researches and quite on different reasons, been traced back westerly to the regions of Yarkand and Khotan?² This is not far distant from the old focus of culture of Central Asia, and the connection cannot be objected to by geographical reasons.

113. A most interesting feature of the literature embodied in the cuneiform characters is the numerous vocabularies (known wrongly as syllabaries) framed for the understanding of the characters and texts of antiquity. They may be roughly divided into two classes, being vocabularies of several kinds giving the different meanings, various sounds, Sumerian, Akkadian, Assyrian, and the Akkadian descriptive names of the characters, single and compound. One class gives the meanings and sounds of one character; the other class, the various characters of one meaning, or of objects of the same kind. They are phonetic and ideologic vocabularies, as, for example, in Chinese, the Yh-King's phonetic vocabularies, and the old dictionary *Et-ya's* ideological lists.

Without exception the so-called Cuneiform syllabaries hitherto found and deciphered are only copies made by order of the Assyrian or Babylonian monarchs. That the originals of these copies were the primitive ones is very dubious. There are reasons and even facts which tend to show that the process of framing lists of those classes is nearly as old as the systematization of the writing in horizontal lines, or has been required, if not by the reform, at least by the ethnological extension of the pre-Cuneiform script and writings.

114. Admitting by the force of overwhelming evidence, the borrowing by the Chinese Bak families of the script and elements of culture from this lexico-making people, we have to recognize the probability of their borrowing at the same time, as was unavoidable, some of these vocabularies. The remarkable similarity of shape, polyphony and various meanings

¹ *Vid.* Rawlinson's *Herodotus*, 3rd edit. vol. iii. p. 198.

² *Vid.* F. von Richthofen, *China*, vol. i. cf. map 3 (Berlin, 1877, 4to.).

between some of these cuneiform phonetic lists appended to one character, and some of the Yh-King's chapters, as for example between those represented by 𐎶𐎶 and 𐎶𐎶, 𐎶𐎶𐎶 and 𐎶𐎶, 𐎶 and 𐎶, ch. 30, 22, 52, would suggest that some of the Yh-King's vocabularies are imitated from old pre-Cuneiform ones.

115. Let us take, for instance, the character 𐎶𐎶 *lu* "a bull,"¹ of which the oldest shape is the same as the archaic form of 𐎶𐎶 *li* "a cow." The various acceptations of the Cuneiform character *lu* in the syllabaries, and those of the Chinese character *li*, indicated in the XXXth chapter of the Yh, a chapter of which it is the subject-matter, ought to correspond, if we are right in our statements. The ancient sounds of the Chinese word were *lip*, *dep*, *de*;² those of the wedge-written character were *lup*, *dip*, *udu*.³ On the so-called syllabary-tablets, the character 𐎶𐎶 single or reduplicated has the following acceptations :

𐎶𐎶	<i>immeru</i>	= "lamb."
𐎶𐎶	<i>gūkkallum</i>	= "sheep" (?).
𐎶𐎶	<i>ṣabatūm</i>	= "to seize."
𐎶𐎶 𐎶𐎶	<i>šindilu</i>	= "a bucket."
𐎶𐎶 𐎶𐎶	<i>tintum</i>	= "law, order."
𐎶𐎶 𐎶𐎶	<i>sitmanu</i>	= "keeping."
𐎶𐎶 𐎶𐎶	<i>ritbusu</i>	= "lying down."
𐎶𐎶 𐎶𐎶	<i>sitpuru</i>	= "sending."
𐎶𐎶 𐎶𐎶	<i>kurruṣu</i>	= "encircling." ⁴

¹ In the bilingual list (*Cuneiform Inscriptions of Western Asia*, vol. ii. p. 44) *lu* is found (as borrowed from the Akkadian stock) with Assyrian complements precisising the gender and number, viz.: *lū* (a bull), *lūlū* (a cow), *lūmim* (oxen). *Lū* is the word as borrowed from the Akkadian; *lūlū* is the word with the Assyrian feminine ending; *lūmim* is the plural masculine, explaining the foregoing groups. The entry succeeds another meaning "oxen." Mr. T. G. Pinches has found this and other information quoted below, on my pointing out to him, by the help of the Chinese, that the characters ought to have the meaning of "a bull" or "a cow," hitherto unknown by the Assyriologists.

² Decayed into *Li* and *che*. The final *p* has been lost very early, but traces of it are still found, and the restoration is perfectly justified in many cases. Cf. for instance: *Min tsi ki*, *Luh shu tung*, K. i. f. 22 v. *Vid.* also J. Edkins, *Introduction to the Study of Chinese Characters*, p. 108, number 724.

³ A syllabary in four columns of the Sp. II. collection in the British Museum, gives as the name of this sign *lu* the word (*lu-up* =) *lup*, thus indicating the full form of the word.—T. G. Pinches, *MS. note*.

⁴ *Vid.* *Cuneiform Inscriptions of Western Asia*, vol. iii. p. 70 lines 58, 59, 60; vol. ii. p. 22. Fred. Delitzsch, *Assyrische Lesestücke*, pp. 36, 58, 25; and also T. G. Pinches, *MS. note*.

Unfortunately a great many values of the sign are lost in consequence of the fractures of the tablets, the principal fracture leaves a lacuna of six or eight lines¹ lost, representing at least as many words. On the other hand, the decipherment of historical inscriptions has revealed several of these lost meanings, such as "to approach, to burn, to cross, to spoil, to hold," etc.²

116. Now let us remember that these acceptations of the Cuneiform character, in the above case as in others, were written some thousands of years ago, and since that time, have no more been exposed to the fluctuations which constantly occur in word-meanings. They have been buried under the ruins of the civilization which produced them, and their language is dead for eighty generations. On the Chinese side no burial nor death has taken place; some kind of crystallization has produced itself in the mind of the middle-kingdom-man by his exaggerated veneration for anything which he has received or assumes that he has received from his ancestors; and though the ground-work of the syllabaries, like chapters included by ignorance in the Yh-King, is undoubtedly a very early compilation, it must not be forgotten that they have been transcribed again and again, re-written and re-arranged by Wen Wang, and, besides that, exposed to all the alterations and transformations of a writing and a language still living.

With all these *impedimenta* in the way of comparison, and all these causes of divergence, are not the parallelism and resemblances of meanings something wonderful? After having referred to the various acceptations of the character 𐎶, as indicated in the chapter relating to it, given above (§ 95), it is impossible not to be struck by the evidence that the two systems and the two texts are related one to the other. It would be rather a bold conclusion to say that they are the same lists; the Chinese being the copy of the other, with no

¹ *Vid. Cune. Insc. W. A.*, vol. iii. pp. 69-70. F. Delitzsch, *Assyr. Les.* p. 65.

² Cf. with caution, Rev. A. Sayce, *Assyrian Grammar*, and E. de Chossat, *Repertoire Assyrien*, s.v., because of the progress of decipherment since the publication of their works.

other discrepancies than those of time, space and language; but what is pretty sure is, that the Chinese vocabularies have been framed in obedience to the same principles, with the same materials, and undoubtedly according to the tradition of the old syllabaries of South-Western Asia.

117. The same principles having been traditional on the two sides, it is no more a remarkable fact, though a convincing evidence, to find in the two countries, besides the phonetic vocabularies, the converse system, *i.e.* lists of the words or characters having a common meaning. The old Chinese dictionary, the 爾雅 *Æt-ya*, is nothing else than an ideological vocabulary. If we take, in the first part (釋詁 *Shih Ku*, which is said to have been arranged from old documents by Chöu Kung in the twelfth century B.C.), the list of the words for *king* or *prince*, and restore their older forms in order to read their old sounds, and then compare it with a list of the same kind published in pl. 30, i. of the *Cuneiform Inscriptions of Western Asia*, vol. v., we cannot help seeing many words common in the two lists, showing that these lists have been drawn from materials differentiated from one same stock.

118. It would certainly be unwise, though not hopeless, the historical and geographical distances having been extended as they have, to expect the discovery of the same texts in Chinese and in Cuneiform. In the lapse of time which has occurred since the communication of culture and probably of written documents, these have varied. They have been transcribed, according to the changes of the writing, or what is much more probable, they have been lost on the Chinese side, which had to keep them twenty-five centuries more to hand them to us. A few fragments may however have survived among a people so fond of tradition as the Chinese are. This would be the explanation of the extraordinary similitude of some of the Yh-King lists with some Cuneiform lists.

119. As a matter of probability, it seems only natural that the early leaders of the Chinese Bak families, instructed by

¹ *Vid.* above § 23 n.

the culture of South-Western Asia, should have been induced not only to keep some lists of the values of the written characters they had learned and wanted to transmit, but also to continue the same practice of making lists relating to the peoples, customs, etc., of their new country.

As a matter of fact the *Yh-King* is the oldest of the Chinese books, not certainly as it now stands, but as far as concerns the greatest part of the documents which are compiled in it. Some of these parts are most likely contemporary with the early leaders of the Chinese Bak families (*Pöb Sing*). It has all the appearance of being a series of notes, documents, and informations collected by the early chiefs of the Chinese immigrants. It looks like a repository of indications drawn up by the early leaders of the Bak families, for the guidance of their officers and successors, in the use of the characters of the writing, by the native populations with whom the newly arrived people had to deal, for the customs, the produce of the soil, the animal kingdom, etc.; and it is, in this sense, that the *Yh-King* is the most valuable of the Chinese classics, the one in which, according to the non-interrupted and unconscious feeling of the Chinese themselves, was embodied the wisdom and knowledge of the sages of yore.¹

It has been deeply modified and somewhat augmented in the course of time, and with the extensive emendations made to the text, the possibility of finding out the primitive meanings can hardly be expected in every case; the contrary would be surprising with so many difficulties to overcome. Be that as it may, the remarkable results of these researches make the *Yh-King* a much higher and more useful book than it had previously been supposed to be. It is not a mysterious book of fate and prognostics. It contains a valuable collection of documents of old antiquity in which is embodied much information on the ethnography, customs, language and writing of early China.

120. We must now bring these notes to a close, and express

¹ We shall go on, my co-worker Prof. R. K. Douglas and myself, with the *Yh*, in order to publish as soon as possible a complete rendering of the book.

the wish that not too many slips of the pen shall be detected in the preceding pages, where some results of many years' researches on the historical evolution of speech and writing in China, in the present case applied to the *Yh-King*, have been put together *currente calamo*, in a space too short to permit my giving all the necessary proofs required. And now that the way is open, I have to ask not only for the indulgence of my colleagues in Chinese researches, and a fair criticism by the scholars more able than I am, but also their support. Any suggestion, facts or comparisons in my line of studies will be welcomed. The field is large, the work is long, and the leisure hours which can be devoted to purely scientific researches are scanty.¹

For easier reference to the whole paper I add a summary of its contents.

¹ I may be permitted to present here my best thanks for the valuable help I have received from several scholars and friends: Dr. R. Rost, Librarian of the India Office, for the loan of books under his care; Mr. T. G. Pinches, of the Department of Oriental Antiquities (British Museum), for MS. notes; Prof. R. K. Douglas, for his constant support; and Mr. E. Colborne Baber, Chinese Secretary of H.M.B. Legation at Peking, for his valuable assistance and advice in the correction of the proofs. The whole paper was written in August, 1882, but the second part (§§ 42-120) was revised in March, 1883. I subjoin a few *corrigenda* and *addenda* to the first part:—Introduction, last note: The criticism of Dr. Legge's *Yi King* by Prof. R. K. Douglas appeared in *The Academy* of Aug. 12th (not July 12th). Dr. Legge wrote a letter about it (Sept. 30), and Prof. Douglas replied, maintaining his views (Oct. 7). *The Atheneum* (Sept. 2, No. 2862) published a review by a well-known sinologist of Dr. Legge's *Yi King*, in which he said: "We cannot catch the inspiration that gave to Dr. Legge the 'clue to the interpretation' of this obscure book;" and further, "We have . . . to confess that we do not understand its drift or its interpretation." The same scientific and literary journal published in its following issue (Sept. 9th, No. 2863) a letter of mine in answer to the unjustified and sharp attack made against me by Dr. Legge in his Preface, pp. xviii and xix to the XVIth vol. of the *Sacred Books of the East*. Dr. Legge replied in the issue of Sept. 23, No. 2865, and the controversy was brought to a close by another letter of mine maintaining my views, published Sept. 30th, No. 2866.—§ 11 (f): A learned correspondent has suggested that 交易 and 得其所 are two well-known colloquial expressions; but certainly they are not in this case, being reproduced from old. Cf. also *Yuen Kien luy han*, R. 192, f. 24, v. The phrase means that Shen-nung cast lots in order to attribute to the changes (易) their respective place.—§ 13: 'subreptitiously,' misprinted 'surreptitiously.'—§ 14 (l): The same above-quoted correspondent has suggested rightly that 蓋 ought not to be taken here as a verb, but as an adverb. We should substitute the following translation: "He (Wen Wang) being imprisoned at Yu-li, then, increased the changes proper to the eight Kwas, in favour of the 64 Kwas." This would agree with the statements of Hwang P'u Mih and of Lo-Pi, in his work about the 九 and 六 lines.

- I.—DESCRIPTION OF THE BOOK.—§§ 1. General description of the book.—2. The Kwas as a classification.—3. Commentaries commonly embodied with the text.—4. Authors of the *Twan* and *Siang*.—5. Characteristics of the ten wings.—6. The first two wings.—7. Length of the book.
- II.—ANCIENT TEXTS ON THE AUTHORSHIP OF THE BOOK.—§§ 8. Vulgar attribution.—9. Statements in cheap and modern books.—10. Texts on the authorship of the Kwas.—11. The supposed work of Shen-Nung.—12. Statements by Wang Fu-mi.—13. Statements by Lo-Pi.—14. The *Hsi-tze* does not support Wen Wang's authorship.—15. Nor does Se-ma Tsien.—16. Se-ma Tsien on Confucius.—17. Statement in the Tso-Chuen on Ch'ou-Kung.—18. Quotations of the Yh in the Tso-Chuen.—19. Their chronology.—20. Prove the progress of the Yh.—21. Prove the existence of the Yh text before Wen Wang.—22. No proof whatever of the authorship of Wen Wang.
- III.—INFLUENCE OF THE EVOLUTION OF WRITING.—§§ 23. The old Chinese writing, its early phonetism and its decay.—24. The hieroglyphical revival about 820 B.C.—25. The unification by Ts'in She-Hoang-ti.—26. The transcriptions are made ideographically.—27. The addition of ideographical determinatives or keys.
- IV.—OBVIOUS VESTIGES OF THE OLD TEXT.—§§ 28. The Lo map and Lo writing.—29. The Kwas.—30. The prognostics slips in the Shu-King.—31. The *Kwei-tsang* and the *Lien-shan*.—32. The old text in the Tso Chuen.—33. Differences of style in the text of the Yh.—34. The foretelling words outside the rhymes.—35. The Ku-wen text.—36. Ways and means to find it out.—37. Ancient characters of the old text.—38. Characters changed. Examples.—39. Changes in the headings of the chapters.—40. Changes in the transcriptions.—41. Importance of the changes.
- V.—THE NATIVE INTERPRETATIONS.—§§ 42. Stupendous number of interpreters.—43. Modifications introduced by Wen Wang.—44. How he classified the old documents.—45. Impossibility for a man of common sense to write it.—46. The Yh handed down by the disciples of Confucius.—47. Editions and commentaries in the Former Han annals.—48. Commentaries known at the Han period.—49. Other commentators.—50. The Yh and alchemy.—51. Other commentaries.—52. Commentators of the Sung period.—53. Critics of the present

- dynasty.—54. The interpreters much more numerous than here quoted.—55. Curious modern views of the Chinese.
- VI.—THE EUROPEAN INTERPRETATIONS.—§§. 56. Fragmentary translations of PP. Premare, Couplet, Visdelou.—57. Fragmentary versions of M. J. P. Schumacher, Dr. O. Piper, Adolf Helfferich, etc., etc., P. Zottoli.—58. Complete Latin version of P. Regis and others.—59. Mystic French version by Mr. P. L. F. Philastre.—60. Complete English version by Rev. MacClatchie.—61. Complete English version by Dr. J. Legge.—62. He has made a Yh-king of his own fashion.—63. Curious effect of these made-up interpretations.—64. How they have been obtained.—65. They are complete nonsense, and cannot be genuine.
- VII.—COMPARISON OF THE INTERPRETATIONS.—§§ 66. Great number of unwarranted special meanings.—67. Curious example of *T'ien* 'heaven' translated *shaving*.—68. Example of the 8th chapter.—69. Passage quoted in the Tso-chuen.—70. Another passage in the same work.—71. Fancy of the translations.—72. *Id.*
- VIII.—METHODS OF INTERPRETATION.—§§ 73. Process followed by Wen Wang.—74. The author of the *Sü Kwa* has nearly guessed the clue.—75. The Yh has never been lost.—76. Method by modification of the characters.—77. The guess-at-the-meaning principle of translation.—78. In what it consists.—79. The duty of a translator.—80. Mencius has not upheld the guess-at-the-meaning principle.—81. Those views are based on a delusion about the archaic Chinese.—82. The scientific method of translation.
- IX.—TRANSLATIONS FROM THE Yh.—§§ 83. Characteristics of the text.—84. Foretelling formula interpolated.—85. Remarks on several characters.—86. Our view of the Yh.—87. Reasons for giving six chapters as specimens.—88. Remarks on the VIIth chapter, *Sze*.—89. Meaning of *Sze* in the Classics.—90. Translation.—91. It is a vocabulary.—92. The XVth chapter, *K'ien*, a vocabulary.—93. Translation.—94. The XXXth chapter, *Li*, a vocabulary.—95. Translation.—96. The XXXIst chapter, *Kan*, a vocabulary.—97. Translation.—98. The XXth chapter, *Kwan*, mixed, vocabulary and ballad.—99. Translation.—100. The XIIIth chapter, *Tung jen*, ethnographical.—101. Translation.—102. The foretelling-words outside the rhymes.

- X.—CONTENTS FORGOTTEN OF THE *Yh*.—§§ 103. Contents of the *Yh*.—104. How made up of sundry old documents.—105. When it was arranged.—106. Is nothing else than a vocabulary.—107. Other examples of books forgotten.—108. The Japanese *Nihongi*.—109. The *Oupnehkat*.
- XI.—ORIGIN OF THE *Yh*. CONCLUSION.—§§ 110. Affinities of the writings and institutions of China and S.W. Asia.—111. Peculiarities of the writing borrowed by the early Chinese.—112. Most likely from the region of Bactria.—113. The cuneiform syllabaries.—114. Affinities with many chapters of the *Yh-King*.—115. The cuneiform character *Lup* in the syllabaries.—116. Comparison with the XXXth chapter of the *Yh*.—117. Ideographical vocabularies in Chaldea and China.—118. Unavoidable discrepancies.—119. Origin of the *Yh-King*.—120. Conclusion and summary.
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ART. X.—*Gleanings from the Arabic.* By H. W. FREELAND,
M.A., M.R.A.S., Commander of the Order of the
Crown of Siam.

قَالَ بَعْضُ الْفَرَسِيِّينَ

بَيْنَمَا نَحْنُ بِالْبَلَاكِثِ فَالَقَا عِيسَاعًا وَالْعَيْسَ تَبْهِي كَوْبًا
خَطَرْتُ خَطَرَةً عَلَى الْقَلْبِ مِنْ دِكْرَاكِ وَهَنَا فَمَا اسْتَطَعْتُ مُنْصِيًّا
قُلْتُ لَبَيْكِ إِذَا دَعَانِي لَكِ الشَّوْقُ فِي وَالْحَادِيَيْنِ حُثَا الْمَطِيًّا

CONJUGAL AFFECTION.

'Twixt Alka and Balakith we

On swift white camels borne, were riding;
But memory brought sweet dreams of thee
My wandering steps and absence chiding.

Nor farther might the wanderer stray,
Since Love, I cried, forbids to roam,
Quick! Camels on your homeward way!
The wanderer turns to love and home.

Hamasa, p. 550.

The name of the author of the preceding poem was Abubakr (Ibn Abdurrahman Ibn Almiswar Ibn Makhramat) of Medina, a poet of the family of the Kūraish. He had married Saliha, the daughter of Abu Ubaidah, to whom he was tenderly attached. On one occasion, when on his way to Syria, he was so overcome by his affection for his wife, and by his longings to rejoin her, that he struck his camels on the head, turned them round, and went back to Medina. On this occasion he composed the preceding verses. When his wife heard his verses, and saw that for her sake he had returned to Medina, she was naturally much gratified. She

said that of all the objects of her regard he was most dear to her, and that in future she should withhold nothing from him. She also made over to him her private property, with which she had not previously allowed him to interfere.

White camels of pure breed were held in high estimation by the Arabs.

The following lines, which are also taken from the *Hamasa*, p. 803, may remind us of the English proverb which tells us that when "Poverty comes in at the door Love flies out at the window":

وَقَالَ آخِرُ
أَنْخِ فَاصْطَبِخْ قُرْمًا إِذَا أَتَاكَ الْهَوَى
بِرَيْتِ كَمَا يَكْفِيكَ فَتَدُ الْحَبَائِبِ
إِذَا اجْتَمَعَ الْجُوعُ الْمُبِرِّجُ وَالْهَوَى
نَسِيَتْ رِصَالِ الْإِنْسَانِ الْكَوَاِيبِ

Translation.

Bid camel stoop, descend, and dip,
If love torment thee, bread
Or cake in oil, 'twill serve thee in
The absent fair one's stead.
When hunger is with love combined,
Though love its tale be telling,
The lov'd one thou wilt soon forget,
And breasts in beauty swelling.

Latine redditum.

Siste et panem oleo descendens unge, levamen
Cordis, si miserum cor nimis angit amor.
Flamma gulæ simul ac desævit et ardor edendi,
Cedit amor stomacho, cedit et alma Venus.

En Français.

Si tu n'as pas l'objet que l'amour cherche en vain,
Descends de ton chameau, mouille de l'huile un pain,
Ayant peur de la faim, qu'il voit à sa poursuite,
L'amour fait le poltron, et se sauve bien vite.

LOVE AND HUNGER.

إِذَا اجْتَمَعَ الْجُوعُ وَالْهَوَى عَلَى الرَّجُلِ الْمُسَكِينِ كَأَن يَمُوتَ

When o'er one luckless wight love and hunger bear sway,
Death slips in close behind them and clutches his prey.

Hamasa, p. 805.

ON THE ROSE.

مُحِبِّكُمْ كَالرَّوْدِ كَوْنًا وَرِجَةً وَعَمَّا قَلِيلٍ تَنْقَضِي مُدَّةُ الْوَرْدِ
وَحَبِّي لَكُمْ كَالْأَسِ فِي اللَّوْنِ وَالْبَقَا مُقِيمٌ عَلَى الْحَالَيْنِ فِي الْحَرِّ وَالْبَرْدِ

Grangeret de la Grange, Anthologie Arabe, p. 130.

Translation.

Thy love is as the scent of blushing rose,
A few brief hours its life of sweetness close ;
My love for thee is as the myrtle's sheen,
Through heat and cold it lives for ever green.

Ἐν τῇ Ἑλληνικῇ γλώσσῃ

Σὸν μὲν ἔρωτα ῥόδοις εἰκάζω Κύπριδος ἀβροῖς,

Τῶν δὲ ῥόδων βιότης ὠκύμορος φθινύθει·

Μᾶλλον ἐμὸς μύρτοισιν ἔρωσ θαλεροῖσιν εἵκε,

Οὔτε κρύος δεδιὼς χείματος, οὐτ' ἀλέην.

Latine redditum.

Ut rosa cui vitæ spatium breve Fata dederunt
Sic levis in vestro pectore crescit amor ;
Noster amor, myrto similis, viget omnibus horis,
Nec solem ardentem aut frigora dura timet.

Auf Deutsch.

Den Rosen deine liebe gleicht,
Die Rosen bald verblüh'n.
Den Myrthen gleich die meinige
Bleibt ewig jung und grün.

En Français.

La rose et sa beauté ne durent qu'un matin,
Tel est de ton amour la vie et le destin !
Mon amour plus constant, plus au myrte semblable,
Ni le froid glacial, ni la chaleur n'accable.

ON THE ROSE.

أَهْدَى إِلَيَّ الْحَمِيْبُ وَرْدًا وَأَلَوْرَدُ قَدْ حَانَ مُسْتَهْمَاهُ
فَقُلْتُ لِلْحَاضِرِينَ هَذَا لَأَشْكُتَ مِنْ خَدِّهِ جَمَاهُ

Grangeret de la Grange, Anthologie Arabe, p. 120.

Translation.

The season of the roses had gone by,
The loved one with sweet gift, a rose, drew nigh.
The rose's birth-place was not far to seek,
For she had culled it from her blushing cheek.

Ἐν τῇ Ἑλληνικῇ γλώσσῃ.

Ἦλθε ῥόδον προφέρουσα κόρη, δώρημα κράτιστον,
"Ωρα δ' ἐιαρινῶν οὐκ ἐπανήλθε ῥόδων"
Θαῦμα δέ μ' οὐκ εἶχεν, θείας γὰρ ἀγαλμα παρειᾶς
Τὸ ῥόδον ἀκμάζει Κύπριδος ἀνθοφόρον.

Latine redditum.

Tempore quo periêre rosæ, quas frigora terrent,
Attulit adveniens cara puella rosam,
In quo flos crevit patuit locus inde, rosæque
Passim in perpulchris enituere genis.

Auf Deutsch.

Die Zeit der Rosen war vorbei mein Liebchen kam und
zeigte
Ein Röslein schön, und sich zu mir mit süßem lächeln neigte;
Ich fragte nicht in welchem land die Rose sei geboren,
Die wange zum geburtsort war und wohnsitz auserkoren.

En Français.

La Rose des jardins était déjà flétrie,
Une Rose en cadeau m'apporta ma chérie;
D'où venait ce cadeau, source de mon bonheur?
Je regardais sa joue, et j'y voyais la fleur.

ON A DOVE IN A CAGE.

لَمْ أَأَسْ قَوْلَ الدُّورِقِ وَهَيَّ حَبِيسَةً وَالْعَيْشَ مِنْهَا قَدْ أَقَامَ مُنْقِصًا
قَدْ كُنْتُ أَلِيسَ مِنْ عُصُونٍ اخْضَرَا فَلَبِستُ مِنْهَا بَعْدَ ذَلِكَ مُنْقِصًا

Grangeret de Lagrange, *Anthologie Arabe*, p. 134, note p. 180.

Translation.

Poor dove! when near her cage I heard
The tuneful plaint of captive bird:
"These twigs," she cried, "which now to me
As cage-bars bring captivity,
Were branches once whose verdure spread
Its sheltering leaf-world o'er my head."

Latine redditum.

Væ mihi, vae miseræ! tenerâ sic voce columba
Plorabat sylvæ gaudia amissa suæ;
Rami qui nuper gratâ me fronde tegebant,
Clathrorum formas, carceris instar, habent.

En Français.

La colombe disait, étant prisonnière,
"Les rameaux ombrageux qui me couvraient naguère,
En cage recourbés font ma triste prison,
Et bornent de mes jours le lugubre horizon."

Auf Deutsch.

Der Taube die gefangen war einst hört'ich den gesang,
Es lautete ganz kümmerlich der trauervolle klang:
"Die zweige die beschützten mich auf sonnigen gefilden
Einsperren mich, und, mitleidlos, ein vogelbauer bilden."

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ART. XI.—*Early Kannaḍa Authors.* By LEWIS RICE,
Director of Public Instruction, Bangalore.

THAT an extensive old literature exists in the Kannaḍa (or so-called Canarese) language is admitted by more than one eminent writer on Oriental subjects, but of the nature and history of that literature little or nothing is known, beyond the fact that it was of Jaina origin. The sectarian titles of many of the works, taken as being a sufficient key to their probable contents, may perhaps have stopped inquirers—if any there have been—from going further. Following up the clue obtained from the writings of Pampa,¹ further researches have enabled me to throw some light on this hitherto virtually unexplored subject.

A knowledge of Sakkada, as Sanskrit was called in Kannaḍa—considered to be a *tadbhava* formed from the word Saṃskṛita—was the necessary mark of a scholar, but, by the best poets, it was used apart from the native tongue. Naya Sena lays down the just canon in the following lines, and he may be admitted as a high authority, for he is specially quoted by Nāga Varma, and that in a *sūtra* of his grammar.

Posa-Kannaḍadim vyāva |
ṛṇṇisuvem sat-kṛitiyan endu Kannaḍamam chin |
tisi kūḍalāṛad akkaṭa |
misukada Sakkadaman ikkuv avanum kaviyē ||
Sakkadamam pēlvare neṛe |
Sakkadamam pēlge śuddha Kannaḍadoḷu tan |
d ikku-ud i Sakkadaṅgaḷa |
takkude berasalke gṛītamumam tailamumam ||

¹ See article on "The Poet Pampa," in the Journ. R.A.S. Jan. 1882.

"Is he a poet, who, saying I will write a good poem in Hosa Kannāḍa, being unable to think of Kannāḍa words, uses incongruous Sanskrit that will not squeeze in? If he write Sanskrit, let him write entirely in Sanskrit: but to bring these Sanskritisms and thrust them into pure Kannāḍa—is it possible to mix *ghī* and oil?"

Nāga Varmma too, in an example quoted also by Keśi Rājā, says:—

Paḷe-Gannāḍada padangoḷe |
koḷe-Sakkadamam taguḷchi jāṇ eḍam uttum |
meḷasam gōḍ ant ire pē |
ḷv aḷi-gavigaḷa kavite budharan erdeg oḷisugume ||

"If into Haḷe Kannāḍa verses they stick in corrupt Sanskrit, which a clever deaf man would discern—as if pepper were like wheat—can the poetry of such ruination poets please the heart of the wise?"

So also Ponna, whose real name was Savaṇa, prides himself on the ability to write in both Sakkada and Kannāḍa, whence his cognomen of *Ubhaya-kavi-chakravartti*.

Yeraḍ eḍege vappanam ma,
chcharisuvanum nuḍige Sakkadam Kannāḍam em |
b eraḍum kaviteya balmige |
beraḷ ettidan iḷeyoḷ i Kuruḷgaḷa Savaṇam ||

"Lest any should bear malice for his precision in language of two kinds, by his ability in both Sakkada and Kannāḍa poetry, he caused the finger to be raised (indicating him as number one, without a second) throughout the world this Kuruḷgaḷa Savaṇa."

Likewise Aggaḷa calls himself *Ubhaya-kavitā-viśāradaṇ*, skilled in both kinds of poetry.

In those old inscriptions, moreover, which display the most literary skill, separate verses in Sanskrit and in Kannāḍa are interspersed with one another according to the opportunities afforded by the theme, in such a way as greatly to heighten the general effect.

It will be observed that the poets of this early period, though writing in what is to us Haḷe Kannāḍa or Old Canarese, call the language they use Hosa Kannāḍa, meaning New Canarese, the present current form, while they

refer to a Hale Kannaḍa as existing in their day.¹ We have thus to distinguish three stages of the language—Pūrvada Hale Kannaḍa, the former or Primitive Old Canarese,² Hale Kannaḍa or Old Canarese, and Hosa Kannaḍa, the new or modern Canarese, now current. Speaking in a very general way, the first period may be said to terminate about the end of the seventh century; the second extends from the eighth to the fourteenth century; when the third commences. Or, the final establishment of the Chālukya and Vijayanagar empires respectively correspond with the rise of Hale Kannaḍa and Hosa Kannaḍa. But these dates are not to be taken absolutely, and the periods in different parts of the Kannaḍa region may be found to overlap or run into one another. The limits above assigned, however, seem also borne out by the characters used in inscriptions, which indicate a marked transition about the ninth and fifteenth centuries respectively in the shape of those letters which have undergone change.

It would also appear that the chief impulse under which the language attracted the special attention of scholars to its systematic study and culture was coincident with the break up of the Ganga power that resulted from the capture of Taḷakāḍu by the Chōḷas, who thence extended their conquests till possessed of Vengi, whence several of the most prominent Kannaḍa authors derive their origin. The centre of literary activity, too, was apparently the Ganga principality formed under Chālukya supremacy, lying along the Tungabhadra to its union with the Krishna, of which Kurugōḍ, still bearing that name, and Puligere or Huligere, the modern Lakshmeśvar, were the chief cities, and embracing the present Dharwad and Bellary districts as far as Karnul.

The earliest notices that have come to light of local authorship are contained in the inscriptions of the Ganga kings, who ruled over the south of the Mysore country and adjacent

¹ The different forms of these names are Pale Kannaḍa or, by euphony, Pale Gannaḍa, Hale Kannaḍa or Hale Gannaḍa, and Posa Kannaḍa or Posa Gannaḍa, Hosa Kannaḍa or Hosa Gannaḍa.

² Wilks describes Pūrvada Hale Kannaḍa as the language of Banavasi, the ancient capital of the Kadamba Kings.

regions from about the end of the second century to the end of the ninth. From this source we get the following particulars:

c. A.D. 240. MĀDHAVA RĀJĀ wrote a treatise on the law of adoption (*dattaka-sūtra-vṛttih-praṇetā*, *dattaka-sūtra-vyākhyā-praṇetā*).

c. 470. AVINĪTA wrote a commentary on 15 cantos of the *Kirātārjunīya* (*Kirātārjunīya-pañchadaśa-sargga-tākākāro*). This celebrated poem by Bhāravi is in 18 cantos, and in support of the above date there is independent testimony that he was already famous in the sixth century.

Next, in an inscription of the Chālukya kings, we have mention of

634. RAVIKĪRTTI, a poet whose fame equalled that of Kālidāsa and Bhāravi (*kavitāśrita-Kālidāsa-Bhāravi-kīrttiḥ*).

Resorting now to the evidence derived from literature, we glean the following information. Where actual or approximate dates are given, it is believed that they may be relied on, but the time and place of those authors to whom no dates are assigned may require readjustment as our knowledge of the subject increases. A special difficulty in these investigations has arisen from the variety of names which one author assumes or by which he was known.

? 650. SAMANTA BHADRA, named together with Kaviparimeshtī and Pūjyapāda, invariably in this order, by Pampa, Ponna, Naya Sena, and several other old poets, as forming the earliest and most distinguished trio among the authors who preceded them. A Chālukya inscription of the eleventh century speaks of Samanta Bhadra as famous for his practical skill. The following works are ascribed to him:—*Devāgama-stotra*, *Nyāya-nīśchaya-vārttikālaṅkāra*, *Uktyānuśāsana*, *Bhāshā-mañjarī*, *Chintāmaṇi-tippaṇi*, *Ashtasahasra-tippaṇi*.

? 670. KAVIPARIMESHTI, always, as above stated, mentioned between Samanta Bhadra and Pūjyapāda. The name is no doubt a *nom de plume*, and we shall find that the assumption of such names became a regular fashion among poets, and was carried to extravagant lengths. His real name has not been discovered, nor any account of his works.

c. 690. PŪJYAPĀDA is specially known for his skill in *śabda śāstra*, or as a grammarian; but he is referred to as a poet along with the two preceding, as above described. A Chālukya inscription records a grant made in A.D. 729 to a paṇḍit who had been his house-disciple. On this ground Pūjyapāda may be placed at the end of the seventh century. The following works are attributed to him:—*Jainendra-nyāsa*, *Pāṇini-śabdāvatāra*, *Kārikā-vṛitti*, *Surasa-saṅgraha*, *Sarvārtha-siddhi*.

788. AKALAṅKA, *Akalaṅka Chandra*, is mentioned by Pampa, Ponna, and others, and is named in an old inscription as excelling in *tarka śāstra*. According to Wilson, he was a Jain from Śravaṇa Belgōla, who, at the date given, disputed with the Buddhists in the presence of Hemaśitala, king of Kāñchī, and defeating them, procured their banishment to Kandy in Ceylon. Ponna styles him the *jaya-vādi*, and Nāgachandra states that “at the radiance of the moonlight of his speech the Digambara *chakora* rejoiced, and the lotus of opponent speakers shut up.”¹ Kamalabhava, describing the effect of his eloquence, says *itara-mata-vādi-mano-nayanam mugidudu*. The following are said to be works by him:—*Devāgama-stotra-nyāsa*, *Pramāṇa-ratna-pradīpa*.

— VIDYĀNANDA, *Vādi Vidyānanda*, is mentioned by Naya Sena. His period is not known. The following works bear his name: *S'lokavārttikālaṅkāra*, *Āpta-mīmāṃsā-nyāsa*.

941. PAMPA, *Hampa*, *Kavitāguṇārnava*, *Guru Hampa*, *Purāṇa Kavi*, *Sukavijanamamanasottama* *Hamṣa*, *Sujanot-tama* *Hamṣa Rājā*. By these and other names is this distinguished poet referred to, with whose publications a great impulse seems to have been given to the study of Kannada. As seen in my former account of him, he was born in A.D. 902, and was descended from a Brahman family of the Vengi country. But his father, from religious conviction, became

¹ Akalaṅka-chandra vāk-chaṇ |
drikeyin dhavalise Digambara-s'ri-bhavya |
prakara-chakoram nalidudu |
mukulitav āyt anyavādi-vadanāmbhōjam ||

a Jaina. Pampa wrote in what he calls "the pith of the Kannada of Puligere" (*Puligereya tiruḷa Kannadaḍol*), under the patronage of Ari Kesari, a prince of the Châlukya family, ruling over a $1\frac{1}{4}$ lakh country called Jôla. For his works the king rewarded him with a *śāsana-agra-hāram* in Dharma-uram,¹ which he named Sāram. His first work was the *Ādi Purāṇa*, which he completed in A.D. 941 in three months. But his next and most celebrated work was the *Pampa Bhārata* or *Vikramārjuna-vijaya*, which he wrote the same year in six months. There are also said to be by him *Laghu Purāṇa*, *Pārśvanātha Purāṇa*, *Paramāgama*.

— ASAGA is named by Ponna and Keśi Rājā, the former of whom claims to be a hundredfold better as a Kannada poet (*Kannada-kaviteyol Asagangam nūrmmaḍi*). Asaga and Agasa denote a washerman. There is said to be a *Varddhamaṇa-svāmi-kāvya* by him.

c. 950. JINACHANDRA is mentioned by Ponna as a contemporary and the author of *Pūjyapāda-charita*. He is described as the equal of Akalanka and a new Samanta Bhadra.

c. 950. PONNA, *Honna*, *Ponniga*, *Ponnimayya*, *Kavi-chakravartti*, *Ubhaya-kavi-chakravartti*, ? *S'ānti-varmmā*. Such are the names by which he is referred to in literature, but his real name was *Savaṇa*, *Kurulgaḷa Savaṇa*, *Sarveva Deva*, ? *Sarveva-varmmā*, as given by himself in the *S'ānti Purāṇa*. From this and from Raṇṇa's work the following particulars have been obtained regarding him. In Pangunūru, a town of the Kamme deśa,² in the Vengi maṇḍala, dwelt a Brahman named Nāgamayya, of the Kaundinya gotra. "In his heart was born the Jina mata," that is, he became a Jain. His

¹ If this be modern Dharmavaram in the Bellary district, it would indicate the direction in which the Jôla territory lay. General Cunningham, too, in attempting to allocate the kingdom of this name mentioned by Hwen Tsang, has pointed out the existence of an old Jôra near Karnul.

² There is a large class of Smārta and Mādhva Brahmans in Mysore called Kamme, but they seem to have no knowledge of the origin of their name. They all speak Kannada, except a few who use Telugu. The *Kannada Kamme* are found chiefly in the eastern division; the *Uḷḷa* or *Urcha Kamme* in the south and east; the *Babbūru Kamme* in the south and west.

Pangunūr might be the modern Punganūr, capital of a Zamindāri of the same name in North Arcot, just over the eastern border of Mysore; but this would bring the limits of Vengi farther south than is generally supposed.

wife was Nāgiyabbe, and they had two sons Mallapa and Ponnamayya, who became distinguished as ministers and generals under the Chālukya king Tailapa (reigned A.D. 973–997). But before this, on the *paroksha* (or death) of their guru Jinachandra Deva, these two, in commemoration of the event, caused Ponniga to write a purāṇa, which they published through all the world. This was the *Śānti Purāṇa*, which its author styles the *Purāṇa-chūḍāmaṇi*. For his superiority over all other poets in command of both Kannada and Sakkada, he received the title of Ubhaya-kavi-chakravartti from the king Kṛishṇa¹ (perhaps, though this is uncertain, the Raṭṭa or Rāshṭrakūṭa king also known as Nirupama and Akālavārsha, ruling in A.D. 945). In Kannada poetry he was a hundredfold of Asaga, and in Sanskrit poetry a hundredfold of Kālidāsa of old, while in arrangement (*rachana*) he was fourfold both combined.² He denounces the poets of the day as merely copying old works and proclaiming them as their own. Though they professed to write in three languages and a half,³ everything was stolen from others; but throughout the realm of letters (*akkarada rājya*) not a child could say this even in play of the Kavi-chakravartti.⁴ From these unstinted praises and the notices of him in other poets, there must be further writings by this author. But with regard to the Śānti Purāṇa, it appears that on the death of Mallapa, his daughter Attiyabbe, in commemoration of the event, and

¹ Bhuvanada Kannada Sakkada |
kaviḡaḡ sale sāle sōle Savaṇaṇḡ ittaṡ |
savivekaṡ Ubhaya-kavi-cha |
kravartti-vesaraṡ nijāhitoshṇaṡ Kṛishṇaṡ ||

² Kannada-kaviteyoḡ Asagaṇ |
gaṇ nūṛmaḡdi-rēkheḡaḡ-aggalaṡ Sakkadodoḡ |
muṇulla Kālidāsaṇgaṡ nūṛmaṡ |
di nāḡmaḡdi rachaneyoḡ Kuruḡgaḡaḡ Savaṇaṡ ||

³ The reference probably is to the three and a half languages from which, according to Nāga Varṇma, all the other languages of the fifty-six countries of India are derived, namely, Saṡskṛita, Prākṛita, Apabhraṡsa and Paisāchika.

⁴ Yeseyade pūḡdu keṡṡa paḡḡ-gabbamaṇ āvaḡaṡ emmaṡva endu bā |
jisi perarḡḡ ittuḡ allade baḡu-śṛutaṡ embiṇaṡ ekkalāvaṇaṡ |
poṡayipa kammaṡippa saṡakattuva binṇaṇaṡ ill adakke raṇ |
jisav erdeḡoḡḡav iḡaḡdiṇa kabbigaḡ-vandiḡaḡ onḡavindiḡaḡ ||
Nōḡire pēḡva mūṛu vare bhāṡheḡalaṡ perar-atthamaṡ perar |
māḡdiḡaḡ-deṡiyaṡ perara-binṇaṇamaṡ perar-ōḡeyaṡ taḡaṡ |
māḡduva kaḡḡaḡ koḡḡaḡ khaḡar iḡkema kabbigaḡ-gaḡḡar endu kū |
s āḡisaḡ āḡad akkaṡada rājyaḡdoḡ iḡ kavi-chakravarttiyā ||

that the work he had caused to be written might not be lost to the world, had a thousand copies made at her own expense. Mallapa for his filial piety had been called *ammana-bhakta*, and she by this act perpetuated in the family the name of *tande-bhakta*.

— CHĀMUNḌA RĀYA, author of the *Chāmunḍa-rāya-purāṇa*. Ranna's patron bore this name, but whether he was the same person is not known.

983. RANNA, *Kavi Ratna*, *Abhinava Kavi-chakravartti*, is named by Nāgachandra and Maṅgarasa. He was the author of the *Ajita Tirthakara Purāṇa*, in which he gives many particulars regarding himself and Ponna, who was a generation before him. Ranna was of the Baḷegāra kula, that of the bangle-sellers, and was born in the year Saumya (A.D. 949) in Muduvaḷalu, a village of the Jambu-khaṇḍi Seventy, in the Beḷugare Five Hundred. This Beḷugare- (or Beḷugale) nāḍ was to the north of a stream flowing into the "big river" at Arekegaṭṭa, to the south of Taddavāḍi (most likely the reference is to Mudhol and the Jamkhaṇḍi jaghir in the Belgaum district, where the Gutparba flows to the Krishna). His mother was Abbalabbe, his father Janavallabhendra, and he had three elder brothers. His guru was Ajitasenāchārya, and his lord was Chāṇḍa Rāya. His wives were Jakki and Śānti, by whom he had a son Rāya and a daughter Attiyabbe.

The circumstances under which his work was written may be thus summarized. Of Mallapa and Ponnimayya (previously mentioned in the account of Ponna), the latter was treacherously attacked by Gômindira; but, without so much as disturbing the scarf he wore, he smote the invader and put an end to his pride. The victor then retired to the banks of the Kāvêri, and there went to *Sura-loka*. This looks as if he must have been seriously wounded. Mallapa, on the other hand, "Apratima Malla, the protected by the Chāḷukyas," lived to become a chief minister under Āhava Malla Deva (Satyāśraya, who ruled A.D. 997-1008). He took to wife Kabbe, the daughter of Nāgiyabbe and Nāgamayya (these are also the names of his own father and mother), and

they had five sons and two daughters. The eldest son, Guṇḍa, gained a victory over Gônara, and thus did credit to his father. The two daughters, Attiyabbe and Guṇḍamabbe, were given in marriage to Nāga Deva, the son of Dalla, a favourite minister of the king's; and Attiyabbe bore a son called Paḍuṇḍa Taila-Nāga Deva, surnamed "Haivatsa Rājā, Mōṛaṭa Malla, bee at the lotus-feet of Âhava Malla Deva," distinguished himself in the Komara war (or war with the Komaras), rushing like a lion upon these people of another faith (*anya mata*). The King, who was a witness of his bravery, made him a *chamupati*, and in a subsequent battle he defeated the army of Panchala; and also, by command of Ballaha, pursued after Mallama from Karahāṭa. Thus, having gained great glory, he went to *Sura-loka*.

Then Guṇḍamabbe, thinking within herself that the fate of a woman is either to follow her lord or to take *Jina-dikṣhe*, came to Attiyabbe, and with folded hands said, "You have a brave and distinguished son. You remain. I beg leave to go with Nāga Deva." Thus having besought her, she embraced her husband and was consumed in his funeral fire.¹ This, her faithfulness, is worthy of celebration, and her observance of the rite was a glory to the Mahâsatī Guṇḍamabbe. The Apsaras were filled with disappointment to lose so handsome a man, and the pair were in *nirvāṇa loka*.

Attiyabbe then said to herself, "My younger sister in one moment passed through the fire to her lord. I, being the elder, must for many days consume in the fire of hardship and fasting." Thus fasting, the protection of her offspring, and giving of charity preserved her alive, and she acquired the fame that no one in the world was equal to the mother of Paḍuṇḍa Tailapa, the Nūrmmaḍi Taila. She made 1500 Jina images of gold and jewels, and for

¹ I am not aware that the practice of *sati* among the Jains has been noticed before, though religious suicide, *sallēkhana* as it was called, was common enough, as shown in the inscriptions at Sravāṇa Belgōla I published in the *Indian Antiquary*, vol. ii. pp. 265, 322.

each of them bells, shrines, golden lamps, splendid robes, and rich triumphal arches. Her son Paḍavaḷa Taila, also called Anniga Deva, was instructed in all wisdom by Nemi-chandra Muni, his disciple Kânûrggaṇa Tilaka, and the learned Ayyanayya; and rose to be a commander of the Emperor's army.

It was by desire of Attiyabbe, whom he calls Dâna-chin-tâmaṇi, that Raṇṇa wrote this poem, which he styles the *Purâṇa-tilaka*, his ambition being that it should endure as long as the Âdi Purâṇa and the Śânti Purâṇa. As among kings, Taila was a help to the independent emperor Raṇa Jaya, so among poets was Kavi Ratna a help to poetry. Being an emperor in the empire of poetry, he received the name of Kavi-chakravartti Raṇṇa. Among numerous other praises of Pampa and of Ponniga, he says :—"Through the fortunate poet Pampa was the glory of the language spread abroad, and shining with his qualities none are superior to Ubhaya-kavi-chakravartti and Abhinava Kavi-chakravartti. Among poets the two former are the most meritorious, the two latter the most successful; two of them only are fortunate—Kavitâḡuṇârṇava and Kavi Ratna. The Âdi Purâṇa and the Ajita Purâṇa being composed by them, the flag of the Dvija-vaṁśa (Brahmans) and the flag of the Vaiśyas were Pampa and Ratna. As Pampa and Ponniga were honoured in the . . . Râjya,¹ so was Kavi Ratna, the Ubhaya-kavi, in the Châṇûkya Râjya. Like the accepted dictum of the *Jainendra* and the dictum of the *Śabdânusâsana*, being well versed in both grammars, were the words of Kavi Ratna celebrated. The three histories he wrote were like the three jewels, namely, *Paraśurâma-charita*, *Chakreśvara-charita*, and *Ajita-tîrtheśvara-charita*." The latter concludes with the announcement that it was finished in Śaka 919, the year Vijaya.

c. 990. NEMICHANDRA, *Kavirâja-kunjara*. The exact date

¹ It is a great disappointment that I cannot supply this name, which it would have been of the highest interest to clearly know. The word in the MS. occurs at the end of a leaf, and is unfortunately broken off. Every endeavour to get another copy has been unsuccessful.

of this author is not known, but he is probably to be identified with the tutor of Taila, mentioned above by Raṇṇa. Man-garasa calls him *Angika Nemi*, and mentions his poem—the *Līlāvatī*, a *Śringāra Kāvya*. The poetry is of a high order, but the work fully maintains the profession of its erotic character. The author praises Samanta Bhadra, Akalanka, Pūjyapāda¹ and Raṇṇa. The hero and the heroine of his romance are prince Kandarpa Deva and the princess Līlāvatī. The former belonged to Jayantipura, an old name of Banavasi.

— GAJĀNKUŚA, named by Naya Sena, and *Gajaga*, named by Keśi Rājā, may be the same.

1060–88. BILHAṆA was *vidyāpati* at Kalyāṇa to the Chālukya king Vikrama, who reigned A.D. 1076–1127. He wrote the *Vikramānka Deva Charita* or *Vikramānka Kāvya*,² a poem recounting the adventures of his patron, finished about A.D. 1085. The following are also said to be works of this author: *Pañchāśikhā*, *Rāmacharita* or *Rāmastuti*, and *Alankāraśāstra*.

— GUṆABHADRA is mentioned by Nāga Varṃmā. He was the author of *Uttara Purāṇa*.

c. 1070. GUṆACHANDRA is mentioned by Naya Sena, who says that his feet were worshipped by the King Bhuvanaika Malla (reigned A.D. 1069–1076). The works said to be his are, *Pārśvabhūdaya* and *Māghanandīśvara*.

— GUṆANANDI referred to by Keśi Rājā may be the same as one of the preceding.

— HARIPĀLA is quoted by Nāga Varṃmā and Bhaṭṭa-kalanka. Nothing more is known of him.

c. 1070. GUṆA VARṂMĀ, is praised by Naya Sena; Nāga Varṃmā styles him *Bhuvanaika Vīra*, a name befitting a warrior rather than a poet; Keśi Rājā describes him as the author of a *Harivaṃśa*. The title Bhuvanaika Vīra seems to identify him with *Udayāditya* (also the name of an author), the Ganga prince who was the chief minister and a successful

¹ This is the only instance in which Kaviparimeshtī is not named between Samanta Bhadra and Pūjyapāda.

² Published at Bombay.

general under the Châlukya king Bhuvanaika Malla (A.D. 1069-1076), and subsequently governor of the Banavase Twelve Thousand. The celebrated Jain temple of the Gangas at Lakshmeśvar was probably erected by him. Other works by this author are *Pushpadanta Purâṇa*, and *Devachandra-prabha-stotra*.

1115. NAYA SENA is named by Nâga Varmmâ in one of his sûtras. He describes himself as *Digambara dâsa*, and was the author of *Dharmmânṛita*, which he styles the *Kâvyaratna*. He wrote it at Muḷugunda (perhaps the present Mulgund in the Dhârwâd district), and finished it in Śâka 1037, the year Nandana. Extracts have already been given from him showing that he was an advocate for purism in the use of Kannada. The following is the testimony he bears to his predecessors :

Asagana dēsi Ponnana mahōnnati-vetta beḍangu Pampan ond |
 āsadṛiṣamapp apūrvva rasa-bhâva Gajâṅkuśan oḷpu-vettu-ran |
 jisuva sad-arttha-dṛiṣṭi Guṇa-varmmana jâṇ Kavi Ratnan oḷe śo |
 bhise nelas ikke dhârūṇi manam goḷe mat-kṛityoḷ niranṭaram ||

Asaga's style, Ponna's majestic skill, Pampa's unequalled taste, Gajâṅkuśa's depth of meaning, Guṇa Varmmâ's knowledge, Kavi Ratna's manner—may all these be ever united in my poem.

— ŚAMBA VARMMÂ mentioned in Nâga Varmmâ, and ŚANKHA VARMMÂ mentioned elsewhere, are probably the same person, the letters *kh* and *b* being easily mistaken for one another. Beyond the names nothing more is known.

c. 1070-1120. *Nâga Varmmâ*, *Kavi Râjâ*, *Kavirâja-Hansa*, is the earliest grammarian of the Kannada language whose works have come down to us. He was descended from a Brahman family of the Kaundinya gotra, residing at the city of Vengi in the Vengi country, and was the first-born son of Veṇṇamayya and Pôlakabbe or Pôtikabbe. He was evidently a Jaina, but would seem to have written under some Śaiva influence. From his quotations he was probably contemporary with Guṇa Varmmâ and Naya Sena, and the date of the latter we know. Shortly before this period, or in A.D. 1063, Râjendra Chôḷa had obtained possession of the Eastern

Châlukya kingdom of Vengi. But the word Chôla is only once used by Nâga Varmma. On the other hand, his sympathies seem to be with the Western Châlukya and Ganga kings, whose names he freely introduces into the examples under his rules. He may therefore have left Vengi on becoming a Jain, and gone to the Western Châlukya territories, in which, as we have seen, there was great literary activity in the Kannada language, especially in the Ganga principality connected with Puligere; but there is no certain information as to his movements.

His works, so far as known, are the following :—*Kavyavâlôkâna*, *Chhandô'mbudhî*, *Karnâṭaka Bhâshâ Bhûshana*, *Vastu Kôsa*, and *Kâdambarî*. The first is a work on rhetoric and Kannada metrical composition. It is written in Kannada verse and consists of five *adhikarâṇas*. Unfortunately all efforts have hitherto proved unavailing to procure a complete MS. of this interesting and important work.¹ The *Chhandô'mbudhî* is the only work there is on Kannada *chhandas* or prosody.² It is also written in Kannada, in the form of verses addressed by Nâga Varmma to his wife, the verses being so composed as themselves to furnish examples of the rules to be illustrated. The author professes to have taken as his guide the sûtras of Pingala, who is an authority for Sanskrit prosody. He appears, however, also to have followed another Pingala, the author of sûtras for Prâkrit prosody. But though these formed his guides, the arrangement and much of the nomenclature of his work is his own, which also, unlike theirs, is metrical. The *Bhâshâ Bhûshana* is a Karnâṭaka vyâkaraṇa or grammar, the oldest extant.³ It is in Sanskrit sûtras, accompanied with a vṛitti or commentary by the author, with examples. The *Vastu Kôsa* is a Samskrîta-Karnâṭa nighaṇṭu or dictionary, composed in many artificial metres. In its compilation he states that he has made use of Vararuchi, Halâyudha, Śâś-

¹ The *Arthâṭmâkâram*, the 3rd *prakarâṇa* of the 3rd *adhikarâṇa*, has been published at Mysore.

² Published at Mangalore.

³ I have this in the press, nearly ready for issue.

vata, Amara Kôsa, and other works. It will be noticed that he does not name Hemachandra, who died in A.D. 1172. The *Kâdambarî* is a literal rendering into Kannaḍa of Bâṇa's celebrated romance of the same name in Sanskrit.

c. 1120. BÂṆA was the author of the *Śrī-Harsha-charita*, a life of Harsha-varddhana of Thâṇesar, who came to the throne 1088. *Sumano Bâṇa*, described as a poet, whose daughter was the mother of Keśi Râjâ, may have been the same person.

— MALLIKÂRJUNA, the father of Keśi Râjâ and a poet. He is said to be the author of *Chhōra kathe*, the adventures of two princes, Somaśêkhara and Chitraśêkhara, in the disguise of robbers.

— KUMUDÊNDU is mentioned by Devachandra as having written a *Kumudêndu Râmâyana*.

— MÂGHANANDI is stated by Kamalabhava, whose guru he was, to have been Kumudêndu's disciple, and by Devachandra to have written a story of Rama. There is a *Pa-dârtha-sâra* by an author of this name.

— BÂLACHANDRA was the guru of Nâgachandra, and a story about him in Kamalabhava is given below. His works are said to be *Tatva-ratna-dîpikâ*, *Prâbhṛitaka-traya-vyâkhyâna*.

1158. NÂCHI RÂJÂ was the author of *Nâchirâjî*, a commentary in Kannaḍa on the Amara Kôsa. His date is based on an inscription.

c. 1170. NÂGACHANDRA, *Abhinava Pampa*, the author of the *Râmachandra-charita-purâṇa*, known as the *Pampa Râmâyana*,¹ of *Mallinâtha-purâṇa*, and of a little treatise on morals called *Jinamunitanayâ*, with which words each stanza concludes. No particulars are given by him of his personal history, but he praises Samanta Bhadra, Kavi-parimeshtî, Pûjyapâda, and Akalanka Chandra. Also Pampa, Ponna, and Raṇṇa, naming the purâṇa written by each. The main guide to his period is that his guru was Bâlachandra muni. Of a muni of this name Kamalabhava

¹ Published at Bangalore.

appearance in this locality of the characteristic alluvial deposit of the Punjáb rivers."¹

We need not pursue in detail the varying courses of the rivers of the Punjáb, but we have an unexpected contribution towards the fixation of the ancient *nidus* of the Vedic Aryans in their reproduction of the term "Sapta Sindhu," a name which Sir H. Rawlinson has shown primarily belonged to the seven head-streams of the Oxus. His observations on this subject were first published in the *Quarterly Review*, and are reproduced below in his own words:—

"The (Puránic) fable described the rivers flowing from Méru as seven, three to the east, three to the west, and one to the south; and this version also had its parallel in the popular geography of Pamír, for the region of the Upper Oxus was known to the Iranian division of the Aryan race from the earliest times—as late at any rate as the eleventh century of Christ—by the name of the country of 'the Seven Rivers.' The evidence on this point is direct and incontestable. In the first chapter of the 'Vendidad,' which, as is well known, contains a geographical summary of the primitive settlements of the Iranian race, there is the following passage:—'The fifteenth place, the fifteenth excellent country, which I, who am Ormazd, have created, is the country of the Hapta Hindu, or the "Seven Rivers," from the eastern river to the western river;' and that this country of the Seven Rivers refers to the head-streams of the Oxus rather than to the head-streams of the Indus, as has been hitherto supposed, is proved not only by the general order and distribution of the geographical list, but by the direct evidence of a very competent authority, the famous Abu Rihan El-Biruni, who says that even in his day (about A.D. 1020) the same old title survived among the Zoroastrian population of the province. 'In the same way,' he observes, 'that at this place (below Multán) they call the united streams (of the Indus) "the Five Rivers" (modern *Penj-áb*),²

¹ Calcutta Review, 1857, vol. ix. p. 323.

² The following is the substance of the Persian text:—

"In the same way as at this place (the head of the delta of the Indus—the

so the several streams which flow from the northern side of the same mountains are called, when they unite near Termid and form the river of Balkh, "the Seven Rivers." The Magians (*i.e.* Zoroastrians), indeed, of Sughd make no distinction between these several rivers, but call the united waters Sabá Sind¹ (*i.e.* the seven Sinds or rivers)."²

Now it is a remarkable point in the repetitions of these *sacred sevens* that the Vedic Aryans insisted upon reviving the traditional number in the inappropriate instance of the regions of the "Five-rivers" in India. There were five big streams only in the locality embraced in the new term; but between the Indus and the Sutlaj they could always complete the number by adding smaller affluents or lower branches of combined streams, which latter were confessedly called by new names; but it is singular that they could never, even to their own comprehensions, satisfactorily make-up the sacred seven, without the aid of the comparatively insignificant Saraswatí.³ It is true that if we are to suppose that they recognized the Suhán (No. 10) as one of the seven rivers, the difficulty in completing the full tale would be lessened. But, as has been already observed, the Saraswatí never could have been the "mighty river" they were pleased to call it,⁴ or in any way entitled to rank in importance with the Indus or the more proximate "100 channelled Sutlaj."

Sind Sagar) they call the collected rivers *Panj-nad*, 'five rivers,' so the rivers flowing from the northern side of these same mountains, when they unite near Turmuz and form the river of Balkh are called 'the seven rivers,' and the fire-worshippers (*majús*) of Soghd make no distinction, but call them all the 'seven rivers.'

"The river Sarsut (Sarsuti) falls into the sea to the east of Somnát. . . . There is a river which lies between the Sarsut and the Ganges. It comes from the city of Turmuz [Thaneswar?] and the eastern hills; it has a south-westerly course, till it falls into the sea near Bahrúch, about sixty yojanas to the east of Somnát."—The Jám'i-ut-Tawarikh of Rashid-ud-dín, epitomizing Albirúni? The date of the latter is about A.D. 1020, that of the former 1310 A.D. Elliot's *Historians*, vol. i. p. 49.

¹ Albirúni wrote in Arabic, though his copyist Rashid-ud-dín wrote in Persian. Elliot's *Historians*, vol. i.

² England and Russia in the East, by Sir H. C. Rawlinson, Murray, 1875.

³ Wilson, R.V. vol. i. p. 88, and *note c*, and vol. ii. p. 320, "The seven great rivers," etc. In vol. iii. p. 506, Saraswatí is spoken of as "having seven sisters," and in vol. iv. p. 100, she is addressed as the 7th (stream) *Sarasvatí*."

⁴ Wilson, R.V. vol. i. p. 10. In vol. iv. p. 191, "to her who is the most mighty of rivers, who is both in heaven and earth," . . . the note adds, "as a goddess or as a river."

relates that the prince Simhaṇa, though he had Vinayēndubrati for his tutor, was as great a fool as an elephant (*hastimārkhana*) and puffed up with pride: yet he was compelled publicly to do obeisance to Bâlachandra muni. Taking this Simhaṇa to be the prince of that name among the Yâdava kings of Devagiri, who came to the throne in A.D. 1210, and the muni to be the one named in a grant made twenty years earlier to a disciple, the date given in the margin has been assumed. That it is not far out is further proved by Nâgachandra's mention as a contemporary of Śruta Kîrtti, who, it will be seen below, was guru to Aggaḷa. Of our author, Karnapârya says:—"In writing poems Ponna may almost compare with Nava Pampa, and no one before or after has excelled these. Though later in date (*adyatara*), yet being praised as master (*dore*) of the oldest poets, great was the fame that Nâgachandra obtained." Devachandra says:—"Among those who have written Sanskrit and Kannaḍa poems, Nâgachandra was eminent for his skill."

c. 1170. ŚRUTA KÎRTTI was Aggaḷa's guru. Nâgachandra says that "he cut off the wings of his opponents with the *syâd vâda* weapon, in the same manner as Devendra smote off the wings of the mountains." Also that he was the author of a *Râghava-Pânḍarîya*.

c. 1175. VÎRANANDI is named in Nâgachandra. A work called *Chandraprabha-kâvyamâlâ* is ascribed to him.

1189. AGGAḶA, *Argala Dêva*, was the author of *Chandraprabha Purâṇa*, which he finished in Śaka 1111, the year Saumya. He was of the Mûla-sangha, Dêsi-gaṇa, Pustakagachcha, and Kuṇḍakundânvaya. His father was Śântîśa and his mother Vâchâmbikâ. He specially invokes Śrî Chandraprabha of Niṅgaḷeśvarapura and Śruta Kîrtti muni, apparently his guru; and styles himself *Ubhaya-kavitâ-viśaradhan* (skilled in both poetries). In regard to his work, which he designates the *Kṛiti-ratna*, he says:—

Nayadim Pampan oraḷḍu nirmmisida Ponnam prîtiyim pēḷḍa bha |
ktiyyim â Ratna-kaviśvaram samedâ tat-kâvya-trayakkam jaga |
trayamum mum beleyâgi poyt ene balikk âm pēḷḍa Chandraprabhō |
daya vistâri yenippa kâvyav id amûlyatvakke pakk âgade ||

“That which Pampa beautifully composed, and Ponna told with affection, and Ratna kavi related with devotion—those three poems beforehand absorbed the value of the three worlds: the *Chandra-prabhodaya* which I have afterwards written, must it not then remain invaluable?”

As an *Aggaḷa Lilāvati* is mentioned in other works, it would appear that he must have written a poem of this name also.

— CHANDRABHAṬṬA is named by Kēśi Rājā.

— MANASIJA mentioned in Kēśi Rājā is perhaps identical with CHITTAJA mentioned in the following lines of the *Kavijihvābandhana*, a work of the 16th century by Īśvara, who calls himself the *Abhinava Kēśi Rājā* :—

Pampanam |

Chittaja-Nāgavarṃma-sudhiyam kavi Kēśava-Raṇṇa-mukhyaram |
chittadoḷ iṭṭu pēḷve kṛtiyam vibudhar mana-mechchutirppanam ||

“Keeping in mind Pampa, Chittaja, the learned Nāga Varṃmā, the poet Kēśava, the distinguished Raṇṇa, I will write a poem pleasing to the wise.”

— ŚRĪ VIJAYA, also mentioned by Kēśi Rājā.

c. 1160–1200 Kēśi Rājā, *Kēśava*, author of the *Śabdama-nidarpaṇa*, the oldest grammar of the language written in Kannada itself.¹ He was a Jain and quotes from “Gajaga, Guṇanandi, Manasija, Asaga, Chandrabhaṭṭa, Guṇa-varṃmā, Śrīvijaya, Honna and Hampa.” His father was Mallikārjuna, and his mother the daughter of the poet Sumano-Bāṇa. He styles himself *Yādava-katak-āchārya*, āchāri of the Yādava army, or, as we might say, chaplain to the forces. The period of the Yādava kings of Devagiri extends from A.D. 1188 to A.D. 1312. On the other hand, in the Basava Purāṇa, finished in A.D. 1369, a Kēśi Rājā is described as a devoted Śaiva at Kalyāṇa in the time of Bijjala, and of Basava the founder of the Lingāyit sect about A.D. 1165. Our author indeed is claimed by the Lingāyits and mentioned with special approval by subsequent writers of that sect. He may therefore possibly have embraced the new faith, but there

¹ Published at Mangalore and Bangalore.

is no trace of it in this work. From inscriptions we learn that there was a Kēsava or Kēsi Rājā, descended from a Brahman family of the Bharadvāja-gotra, who came to be Herggaḍe Daṇḍanāyaka of the Banavase Twelve Thousand under the King Bijjala, and held that office down to A.D. 1160 at least. Moreover, in making a gift to a temple in A.D. 1157, he was at the unusual pains of providing for *Kannaḍa-kshara-sikṣhe-ghaṭiyār*, learned men to teach Kannaḍa letters. Whether these several persons of this name were identical with the author is not clear. The *Śabdamaṇidarpaṇa* is in verse, and gives the following as the names of his other works:—*Chōla-pālaka-charita*, *Subhadrā-haraṇa*, *Prabodha-chandra*, *Kirāta*. No one of these has been obtained as yet.

— BANDHU VARMMĀ is mentioned by Mangarasa. He was the author of *Harivamśābhyaṇya* and *Jīva-sambodhane*.

— JANNA, *Jannuga*, *Janārddana*, is praised by Kamalabhava and by Mangarasa, the latter of whom states that he wrote the *Anantanātha-charita*.

c. 1200. KAMALABHAVA, the author of a *Sāntīśa Purāṇa*, not to be confounded with Ponna's work of like name, which is in twelve *āśvāsas*, whereas the present one is in sixteen. Kamalabhava has the appearance of being an assumed name. He was of the Dēśi-gaṇa, the Pustaka-gachcha and Koṇḍakundānvaya. His guru was Māghanandi. As he mentions Aggaḷa and also relates the story above given (under Nāga-chandra) of how the prince Siṃhaṇa was forced to reverence Bālachandra muni, his period would be about A.D. 1200. He praises Samanta Bhadra, Kaviparimesṭi, and Pūjyapāda; and thus eulogizes his predecessors:

Jina-samaya-prakāśa-kṛita sat-kavi Hampana pempu-vetta Hon |
nana kavi-Nāgachandrana negalteya-Raṇṇana sanda-Bandhu-va |
rmmana budha-Nēmichandrana jagan-nuta-Jannana ranjip-Aggaḷa |
yyana kṛiti-saundarī-subhagam āvagam irkke maṭṭya kāvyadōḷ ||

“Those luminaries of the Jina congregation, the true poet Hampa, the famous Honna, the poet Nāgachandra, the celebrated Raṇṇa, the great Bandhu-Varmma, the learned Nēmichandra, the world-praised Janna, the renowned Aggaḷa—may the beauties of all their poems for ever dwell in mine.”

c. 1220. KARṆAPĀRYA, *Kaṇṇapa*, *Karṇama*, *Karṇa-varmmā*, was the author of *Nēminātha Purāṇa*, and is mentioned as such by Mangarasa. He wrote under the patronage of Govarddhana, king of Kilekila-durga (apparently in the Kolhapur country), and a devoted adherent of the Śrāvaka dharma, for his son Vijayāditya. The latter's younger brother Lakshmaṇa having expressed a wish that some one should relate the history of Nēmi Jinendra, our author undertook it, also including therein the Hari-varṇsa and the Kuru-varṇsa." His praise of Nāgachandra or Nava Pampa has already been quoted.

c. 1225. MANGARASA, *Manga Rājā*, the author of a *Hari-varṇsa* or *Nēmi-Jinēsa-sangati*, in which he describes himself as the son of Vijayēndra Rājā, prabhu of Kalluhalli. His notices of former authors are especially valuable from his giving names of their works. The following poets are mentioned by him as having written *Kannāḍa champu-kāvya*s, namely, Pampa, Guṇa-varmmā, Jannuga, Raṇṇa, Ponna, Nāgachandra, Kaṇṇapa, Angika Nēmi, and Bandhu-varmmā. The following works are also attributed to him: *Manmatha-charitra*, *Samyaktva-kaumudī*, and *Karṇāṭa-Śabda-manjarī*. This last may have been used by Devottama for his *Nānārtharatnākara*.

c. 1250-1300. RUDRA, *Rudra Bhaṭṭa Jagannātha-vijaya*, consisting of stories about Kṛishṇa. This appears to be one of the earliest Brahmanical compositions in the Kannāḍa language. The author names as his predecessors, Śankha-varmmā, Śānti-varmmā, Guṇa-varmmā, Manasija, Karṇama, Pampa, Chandrabhaṭṭa, Ponna-mayya and Gajāṅkuśa. He perhaps also wrote a *Rasakālikā* and a *Viraktara-kāvya*.

— AMRITA-NANDI was the author of *Dhanvantari-nighaṇṭu* or *Akārādi-nighaṇṭu*, a dictionary of medical terms: also of a work on composition.

c. 1300. ŚĀLVA wrote the *Rasaratnākara*, a Kannāḍa work on dramatic composition. He refers, as his authorities, to Amrita-nandi, Rudra Bhaṭṭa, Vidyanātha, Hemachandra, Nāga Varmmā, Kavi Kāma, Udayāditya, Gaṇeśvara and others.

From this period, the Jains, who had hitherto possessed the field almost entirely to themselves, appear only now and then among Kannada authors, their place being taken by Lingāyit writers until A.D. 1508, when Brahmanical works make their appearance with the Kannada translation of the Mahā Bhārata. It is not the object of this article to pursue the subject into these more modern times, regarding which information already exists. But to complete our survey of Jaina writers, the few who published works after this time may here be added.

1398. ABHINAVA MANGA RĀJĀ, author of the *Manga-Rājā-nighaṇṭu* or *Kavi-Mangābhidāna*, a valuable dictionary in Kannada verse, on the plan of the Amara Kōśa, giving the Kannada meanings of Sanskrit words commonly used in the language. It is dated Śaka 1320, the year Bahudhānya. The author seems to have been of the Kanne (? Kamme) kula and Viśvāmitra gotra. He wrote under Timmārya Rāmarasa, and by the blessing of Śaśipura Someśa. He professes to copy Nāga Varma's nighaṇṭu, and styles himself Abhinava Bālasarasvatī Manga Rājā, and Bālaśārada Manga Rājā. Another work called *Chintāmaṇi-pratipada* is said to be by him.

— ABHINAVA VĀDI VIDYĀNANDA was not an original author, but made a collection of extracts from the old poets, called *Kāvya Sāra*, so arranged as to illustrate the several sentiments of poetry. His date is unknown, but he may belong to the sixteenth century.

? 1550. DEVŌTTAMA, author of *Nānārtha-ratnākara*, a Sanskrita-Karnāṭa vocabulary, based upon Nāga Varma's *Abhidhānārtha* and (? Mangarasa's) *Śabdamanjarī*. He was of the dvija vaiṣṇa.

— DEVACHANDRA, *Devachandra Dviya, Vibudhendu*, the author of *Rāmakathāvatāra* and of *Rājāvalī-kathe*. He may be identical with the preceding or a totally different person living at quite another period, whether ancient or modern. In the first work he states that he kept Abhinava Pampa's poem before him as a guide, and gives some information about former Jain writers of the Rāmāyaṇa story, among

whom he names Châmuṇḍa Râya, Nâgachandra, Mâghanandi, Kumudendu, and Naya Sena.

— VRIṬṬI-VILÂSA, author of *Śâstra-sâra* and *Dharmma-parîkshê*. His date is quite unknown.

1604. BHATṬÂKALANKA DEVA, author of the Karnâṭaka Śabdânusâsana, an exhaustive grammar of the language in Sanskrit after the manner of Pânini, with a voluminous commentary called *Bhâshâ-manjarî*, and a further commentary thereon called *Manjarî-makaranda*, the whole after the manner of the Mahâbhâshya.¹ The last commentary is dated in A.D. 1604, and both the original sûtras and the two glosses are by Bhatṭâkalanka, but whether all by the same person, or by writers of the same name belonging to different periods, is not yet sufficiently determined. There are not wanting reasons for assigning the sûtras to an earlier date than the twelfth century. To a Bhatṭâkalanka are also ascribed *Ashtâṣṭi*, *Pratishṭhâ-kalpa* and *Râjavârttikâlanakâra*.

This resuscitation, as it were, of long-forgotten and neglected authors, brings to notice a noble array of indigenous writers, striving in the true spirit of scholars to outvie one another in embellishing their native language and in purging it from the admixture of foreign elements, an adulteration to which the ignorance and carelessness of immature students rendered them only too prone. But while the discovery of this large body of literature cannot but raise in estimation a language so well capable from its own resources of serving as a vehicle for every variety of thought, it must not be hastily concluded that no literary effort was put forth in an earlier phase of it. For one form which the persecutions under Kumârila Bhaṭṭa, and later under Śankarâchârya in the eighth century, took, was the destruction of Buddhist and Jain literature. It was on the occasion of Śankara's casting such works into the Tungabhadra that, so the story goes, one book persisted in floating on the waters and could not be made to sink. This was the *Amara Kôṣa*, which was in consequence rescued from destruction and suffered to live.

¹ I have this great work on Kannada nearly ready for the press.

ART. XII.—*On Two Questions of Japanese Archaeology.* By
 BASIL HALL CHAMBERLAIN, M.R.A.S.

THE main interest of the world's history centres so indisputably in the doings of the Aryan and Semitic races, that even those whose attention has been chiefly devoted to other areas of human development cannot but concur in the judgment which assigns to the object of their studies a secondary place. At the same time, the second place, and even the third, has a claim to *some* hearing; and if we grant (as we are bound to do) the second place to China as the intellectual, and to some extent the political leader of Eastern Asia, the third place will perhaps be allowed to belong to Japan. Pending the settlement of the disputed Accadian question, Japanese literature takes us back many centuries further than the oldest documents of the Mongols, Mantchus, Turks, Finns, or any other nation of the Altaïc stock; and, as the Archaic Japanese language may, on account of its superior antiquity, lay claim to the title of the Sanskrit of the Altaïc tongues, so, also, is it to be presumed that the early Japanese civilization and religion present us with the most original features of Altaïc thought and life.

Clearly to define the nature, the date, and the authority of the sources of our knowledge of Japanese mythology and early history is therefore a point of prime importance to sound Altaïc scholarship; and the present writer having for some years past made a special study of those sources, and having arrived at conclusions which differ considerably from others recently published in Europe, and notably from those contained in some of the "Communications" made by Mons. Léon de Rosny to the Académie des Inscriptions et Belles-Lettres of Paris, room may perhaps be found in the *Journal of the Royal Asiatic Society* for a brief statement of his

views, which are also those of the other few English students resident in Japan who have occupied themselves with the Archaic literature of the country. In such a paper, of which controversy is the *raison d'être*, it is very difficult altogether to avoid a controversial tone. But if any of the judgments expressed should be thought harsh, it must be remembered that they are in no way personally directed against the versatile scholar whose opinions are criticized, but only against those opinions themselves. Indeed the difficulties which bar the approach to a competent knowledge of any Japanese subject are so keenly felt even by those whom residence in Japan naturally surrounds with facilities of every kind, that they cannot but admire the pluck which leads a small band of home students to face those difficulties almost unaided. In the last resort, however, opinions on Japanese archæology, as on other matters, must be judged, not by a comparative but by an absolute standard—the standard of evidence. The object of the present paper is to discuss the evidence forthcoming on two points, viz. I. the documentary sources of our knowledge of Archaic Japan; and II. the so-called “Divine Characters,” which are said to have been used by the Japanese before the introduction of the Chinese ideographic writing.

Japanese archæology offers other interesting points on which various unfounded assertions have been made by several writers both of the present and of the past generation. This is notably the case with the old mythology of Japan, known by the name of Shintō. But as even the most succinct exposition of the mixed nature of this mythology, of which it has been vainly endeavoured to make one consistent system, would occupy too much space in this Journal, those who may be desirous of seeing the subject discussed at sufficient length are referred to the “Transactions of the Asiatic Society of Japan,” and especially to an elaborate essay by Mr. Ernest Satow, printed in vol. iii. part i. of those “Transactions,” and to the Supplement to vol. x., containing a full literal translation of the “*Ko-ji-ki*” by the present writer, preceded by an Introduction in which a general

account is given of the religious and social features of Japan during the Archaic period. The documents forming the sources of our knowledge of Japanese antiquity and the written characters in which those documents are composed will therefore alone here be adverted to.

I.—THE SOURCES OF OUR KNOWLEDGE OF JAPANESE ANTIQUITY.

The authentic literary sources of our knowledge of Japanese antiquity are three in number, viz. I. the histories entitled "*Ko-ji-ki*" and "*Nihon-gi*" (i.e. "Records of Ancient Matters" and "Chronicles of Japan"—the Chinese characters are 古事記 and 日本紀), which date respectively from the years 712 and 720 of the Christian era; II. the poems of the "*Man-yō-shū*" (i.e. "Collection of a Myriad Leaves"—萬葉集), the exact date of whose compilation is not known, but is referred by the best native authorities to the reign of the Emperor Shō-mu, who died A.D. 756; III. the "*Norito*" (祝詞) or Rituals used in the Shintō worship, of which the earliest extant collection dates from A.D. 927, but for some of which an antiquity greater by three centuries is with apparent reason claimed. Of all these works there exist critical editions and commentaries by the best known of the Japanese *literati*; and European investigators feel satisfied that the works are authentic, i.e. that they date from the periods to which they are respectively ascribed. European investigators in Japan are indeed not at all disposed to accept the so-called history of the early Japanese emperors which the "*Ko-ji-ki*" and "*Nihon-gi*" contain, and which has hitherto often been quoted as a more or less genuine narrative of facts from the year 660 B.C. downwards. On the contrary, they incline to fix the highest limit of reliable Japanese history at about the year 400 *after* Christ, i.e. a thousand years later than the date claimed by the modern Japanese.¹

¹ How little reliance can be placed on the assertions of the Japanese historians with regard to periods previous to 400 B.C. is instanced by the fact that the

That, however, is another question. We have here to do, not with the history itself, but with its sources. Mons. de Rosny, in his "Questions d'Archéologie Japonaise" (Paris, 1882), together with certain observations on the "*Ko-ji-ki*" and "*Nihon-gi*," some of which read strangely to such as are familiar with those books in the original, gives a list of no less than fifteen works as "primitive sources of Japanese history." This list, together with a remark of Mons. de Rosny's on the works contained in it, will be found in the foot-note to this page.¹ The list of fifteen works is, it must be added, taken from another Japanese work, entitled "*Uye tsu Fumi*," or "*Jō-Ki*" (上 記), which first appeared in 1878 under the editorship of a Mr. Kira Yoshikaze.

Now, lest it should perhaps be thought that the present writer's object is to throw discredit on a brilliant discovery, Mons. de Rosny's own account of the authenticity of the work in question shall be quoted *in extenso*. He says:—

"*Ch'ien Tsū Wén*" (千字文), one of the two books which they mention as having been brought over to Japan at a date corresponding to 285 A.D. by Wani, the reputed first teacher of letters, was not composed till more than two centuries later, while the monarch to whose reign the occurrence is referred is credited with attaining the age of one hundred and ten, or one hundred and thirty (the two histories differ here, as in many other cases).

- ¹ 高千穂ノ大宮司ノ傳書.
 同國主元雄ノ傳書.
 常陸國新治郡富田某ノ家記.
 出雲國造上世記.
 常陸國鹿島國造文.
 伊豆加茂三嶋ノ傳書.
 尾張中島逆手記.
 伊勢度會文.
 攝津住吉大余坐記.
 肥後凡代縣文.
 阿波田村記.
 筑前後老家文.
 豐前後老家文.
 薩摩霧島記.
 越白山舟人文.

Ces ouvrages sont, en grande partie, ceux auxquels le *Yamato-bumi* a fait des emprunts, comme je l'ai dit, sans nous fournir de citations précises.

“Un de ces textes, le *Uye-tu fumi*, a été l'objet d'un très curieux travail d'un savant japonais, M. *Kira Yosi-kaze*; l'édition que je possède forme trois volumes in-4°, et a paru à Yédo la dixième année de l'ère *Mei-di* (1878). La publication primitive de ce livre n'est pas fort ancienne. On la fixe à la deuxième année de l'ère *Tei-wô*, c'est-à-dire à 1223; mais il paraît qu'il avait été composé à l'aide de documents antiques perdus depuis fort longtemps. L'*Uye-tu fumi*, lui-même, avait été perdu et ce n'est que dans ces derniers temps qu'on en a découvert deux exemplaires, d'ailleurs plus ou moins défectueux ou incomplets.

“Il m'est impossible de rapporter ici le récit des enquêtes successives que nous mentionne M. *Kira* pour nous renseigner sur les motifs qui l'ont engagé à en admettre l'authenticité. Ces enquêtes, tout en n'étant pas absolument satisfaisantes et décisives, font à coup sûr honneur à l'érudition japonaise contemporaine, et nous montrent que si la critique historique n'est pas encore fondée au Japon d'une façon irréprochable, les savants de cet empire n'en ignorant pas les méthodes et les procédés.

“L'éditeur de l'*Uye-tu fumi*, avant de discuter le contenu du livre qu'il remet en lumière, s'attache à nous faire connaître l'origine des deux exemplaires dont l'existence lui a été signalée. Il a recueilli scrupuleusement tout ce qu'il a pu savoir sur les conditions de conservation de ces exemplaires entre les mains de leurs possesseurs actuels, et il nous en donne une description aussi minutieuse que possible. Il aborde ensuite l'examen des caractères avec lesquels le livre a été écrit, et les rapproche de ceux qu'on a constatés sur diverses inscriptions antiques. Ces inscriptions, il les reproduit, en raconte l'historique, en examine en détail les principaux caractères. Puis il aborde enfin le contenu du texte, qu'il essaye de traduire et qu'il commente longuement, en s'appuyant sur tout ce qui a été conservé au Japon de documents écrits relatifs aux plus vieilles périodes de l'histoire littéraire de cet empire. Il nous est encore bien difficile de suivre sur ce terrain l'éditeur de l'*Uye-tu fumi*, parce qu'il nous manque, en Europe, la plupart des livres

anciens qu'il cite à l'appui de ses discussions, et nous sommes à peu près sans moyens de contrôler la valeur réelle de ce qu'il considère comme les sources sûres des annales de son pays.

"Je ne présente donc point à l'Académie le *Uye-tu fumi* comme un document dont l'authenticité est définitivement établie, mais il m'a paru intéressant de lui signaler le travail d'érudition qui s'accomplit, en ce moment, aux dernières limites du monde asiatique.

"M. Kira nous rend, en tous cas, un véritable service en nous donnant la liste des livres qu'il regarde comme les plus anciens documents historiques du Japon. Dans les vieilles annales intitulées *Yamato-bumi*, principalement dans les deux premiers livres qui renferment la Genèse cosmogonique de l'extrême Orient, on trouve, à la suite du texte proprement dit, des passages plus ou moins étendus, tous également précédés de cette mention : 'Dans un certain livre, il est dit.' Ces passages sont évidemment des emprunts faits à des ouvrages qui existaient encore à l'époque où le *Yamato-bumi* a reçu la forme sous laquelle il a été transmis jusqu'à nous; on pouvait regretter cependant, de ne pas savoir quels avaient été ces livres. Deux ou trois seulement nous étaient connus de titre. La liste de M. Kira et les nombreux renseignements que renferme son ouvrage nous permettent désormais de rechercher ce qui a pu être conservé des sources primitives de l'histoire japonaise."

Reduced to a concise statement of facts, this means that certain "long-lost ancient documents," of whose original existence not the shadow of a proof is advanced, are supposed to have been used in the composition of a book attributed, on the authority of Mr. Kira, to the year 1223 and likewise lost, and then alleged to have been discovered in an imperfect state and first printed five years ago; that furthermore this book quotes fifteen other books, and that therefore those fifteen other books are the sources of portions of the "*Nihon-Gi*" (here mentioned by Mons. de Rosny under its fanciful modern title of "*Yamato-Bumi*"). And it is this which does honour to Japanese erudition, and which shows

that the Japanese are acquainted with the methods of historical criticism!

Probably, if closely examined, no more crushing condemnation of the modern forgery entitled "*Jō-ki*" or "*Uye tsu Fumi*" could be given than that with which Mons. de Rosny himself here furnishes us. But persons not acquainted at first-hand with the literature bearing on the ancient history of Japan, may be interested to learn that neither any ancient authority nor any modern writer on Japanese archæology ever mentions or in any way alludes to the "*Uye tsu Fumi*" or to the fifteen works quoted by it, with the exception of that excellent treatise on literature and writing materials entitled "*Bun-gei Rui-san*" (文藝類纂) published in 1878 under the auspices of the Imperial Japanese Educational Department, which once names the "*Uye tsu Fumi*" contemptuously in a foot-note. Even the vast learning and the fondness for curious speculations of the Shintō scholar Hirata did not lead him on to their track, and from such bibliographical works as the "*Gun-sho Ichi-ran*" (群書一覽), and from the list of various works quoted by writers from the earliest times downwards, they are all equally absent. Moreover, the "history" contained in the "*Uye tsu Fumi*" proves on investigation to be simply the usual Japanese mythology, altered and added to by a person not sufficiently familiar with the features of Japanese antiquity to be able either to avoid repeated anachronisms or to imitate the Archaic language; and the sixty-three emperors, whose lives form the original portion of the work, are represented as ancestors of the Mikado Jim-mu, who himself belongs to an epoch preceding by eight centuries a reign which Mons. de Rosny elsewhere allows to be "partly fabulous," and which is probably placed a thousand years earlier than the dawn of authentic history. It must likewise be observed that Mr. Kira, instead of publishing in its original state what, if it existed, would be an invaluable monument of antiquity, avowedly arranges and "translates" it, while the account given in his Introduction of the circumstances of the discovery of the MS. is in reality neither full nor satisfactory,

and the reasons which lead him to interpret as he does the mysterious characters in which the work is said to be composed are nowhere stated.

In fact Mons. de Rosny's candid, though scarcely sufficiently explicit avowal of the worthlessness of the book in question is quite justified, and the position of the *Uye tsu Fumi* in Japanese literature might be best illustrated by comparing it to the "Book of Mormon." An important difference, however, between the American and the Japanese romance is that the latter has never enjoyed any partial credit even in its own country. But then why put it forward as a grand discovery which is to herald a new era in the study of Japanese history?¹

II.—THE SO-CALLED DIVINE CHARACTERS² SAID TO HAVE BEEN USED BY THE JAPANESE PRIOR TO THE INTRODUCTION OF THE CHINESE IDEOGRAPHIC WRITING.

This subject, as it is wider and of more general interest than that which has just been discussed, so also is it surrounded by greater difficulty, there being arguments to advance on both sides of the question. The present writer's endeavour will be to prove that the negative evidence, that is to say, the evidence tending to show that the Japanese did not anciently possess a written system of their own, is much stronger than the evidence tending to show that they did

¹ The following anachronisms are all culled from the account of one reign, which is placed thousands of years before the Christian era, and which is itself made to extend over more than a century. The Denotation of Ranks by Different Headdresses is mentioned, though it was first introduced from China in the reign of the Empress Suiko, A.D. 603; Paper and Indian Ink are mentioned, though the "*Nihon-Gi*" tells us that they were first introduced from Koma, one of the ancient Korean States, in A.D. 610; the Imperial Chariot is mentioned, though it too was only used in imitation of Chinese custom; the Abdication of the Emperor is mentioned here and perpetually elsewhere, though it was a custom which only came in with Buddhism; Lanterns are mentioned, though they did not gradually begin to supplant the older torches till the latter half of the fifteenth century of our era. Other instances might be adduced from almost every page to show the ludicrously modern nature of the actions ascribed to the supposititious ancient Japanese personages written of; but the very palpable anachronisms here pointed out may suffice as specimens. They occur in vol. ii. pp. 24-32.

² 神字 or 神代文字.

possess such a system, and that consequently Mons. de Rosny and others are not justified in speaking of the "Divine Characters" as if the existence of those characters were an ascertained and undisputed fact.

The positive evidence forthcoming from the mediæval—there is none in the earliest—literature of the country is as follows: In the "*Shaku Nihon-Gi*" (釋日末紀), a commentary on the "*Nihon-Gi*" composed in the latter part of the thirteenth century, we read: "My teacher said that among the documents in the Treasury were some six or seven pages in the characters of the people of Hi. A former Emperor caused the characters to be copied in the Imperial Library. They were all in *Kana*,—some of them not clear, but others, such as ㇿ and ㇾ, clearly to be seen. May we not regard them as the first [specimens of our national writing]?"

"A former teacher has said: the introduction into our Empire of the Chinese characters dates from the august reign of the Emperor Ō-jin [3rd & 4th centuries after Christ, according to the current chronology]. May not the origin of the Japanese characters be referred to the Divine Age? The art of divination by means of the tortoise-shell originated in the Divine Age on the occasion—so says one account in this History—of the Two Deities of the Passive and Active Elements giving birth to Hiruko, when the Heavenly Deities divined with vast divination, fixed by divination on an hour and day, and sent them down [*to begin the work of procreation over again—Hiruko being a failure: see Trans. of Asiatic Soc. of Japan, supplement to vol. x. sects. iv. and v.*]. Now, if they had had no written characters, could they possibly have practised divination?"

Of this passage it must be remarked that the context seems to show that the ordinary *kana* in one of its forms was what the writer had in his mind, though he expresses himself confusedly; and he is correct enough if what he means to say is that the, at least partial, use of the *kana*, i.e. in the proper and original sense of the word *kana*, of Chinese characters borrowed to denote sound rather than

sense—preceded the composition by Japanese writers of books in the pure Chinese style. That the “*Nihon-Gi*,” which is written in pure Chinese, was preceded by the “*Ko-ji-ki*,” which is written partly in *Manyō-Gana*, is a case in point.

In the Preface to the “*Jin-dai Ku-ketsu*” (神代口決), a commentary on the first two volumes of the “*Nihon-Gi*,” by Imibe no Masamichi, dating from A.D. 1367, we read: “The characters of the Divine Age were pictures of objects. In the august reign of the Emperor Ō-jin the classics of a foreign land [*i.e. China*] were first introduced into our Empire; and after that, under the Empress Suiko, Shō-toku Tai-shi added Chinese characters to the Japanese characters, and more than a hundred years later this book was composed.” In a note the author adds an example of the method he conceives to have been pursued in adapting the Chinese characters to the Japanese sounds.

A third passage, which has been quoted by the supporters of the theory of the existence of the “Divine Characters,” occurs in a colophon to the first printed edition of the first two books of the “*Nihon-Gi*,” and is to the same effect as that portion of the passage just quoted from the “*Jin-dai Ku-ketsu*,” which ascribes to the Buddhist hero Shō-toku Tai-shi, who flourished at the beginning of the seventh century of our era, the introduction of the Chinese characters to supplement the native ones. But it must be remembered that, although the “*Nihon-Gi*” itself dates from A.D. 720, this colophon goes back no further than A.D. 1599. Moreover, as has been pointed out by one of the most learned writers on the subject, Ban Nobutomo, at the beginning of his work on the Japanese syllabaries, entitled “*Ka-ji Hom-matsu*” (假字本末), all such assertions emanating from the Urabe and Imibe families—hereditary soothsayers and exorcists—are *ipso facto* suspicious; for the whole tendency of the teaching of those families was to interpret Shintō in a Buddhist or Confucian sense, and thus to obscure the true features of Japanese antiquity. In fact, says he with reference to the passages that have been adduced from this source

by the partizans of the antiquity of the "Divine Characters," "they are all equally undeserving of notice."

Finally, Mons. de Rosny alludes, without quoting it, to the following passage, which will surprise the student of Japanese history. It says: "According to an old tradition handed down in the Urabe family, the Emperor Kimmei [*died* A.D. 571], having ordained the abolition of our national system of writing and the sole use of the Chinese character, commanded the Muraji Tokiwa to re-write in the Chinese character the old books that had been transmitted from the Divine Age." Now where does this passage occur? Not in the standard histories; not in any collection of edicts; but, in a note to a controversial work of Hirata's, by whom it is quoted from an obscure Shintō priest, another of whose contributions to the literature of the subject, as quoted in the same context ("*Shin-ji Hi-fu-mi no Den*"—神字日文傳—vol. i. p. 12), is the remark that "even if there were no such characters [*as the Divine Characters*] it would be the part of true patriotism towards our August Country to assert that there were." (!)

So far the mediæval evidence. We then come down to the end of the seventeenth century, when flourished the celebrated *littérateur* and *savant* Arai Hakuseki, the first modern, as Hirata remarks, who makes mention of the "Divine Characters." He, however, as we find on referring to his work on systems of writing entitled "*Mon-ji Kō*" (文字考, incorporated in his *Dō-bun Tsū-kō*, 同文通考, vol. ii. p. 5), rejected as imitations of the Korean *Ōn-mun* alphabet the specimens of "Divine Characters" that were shown to him by the priests of certain temples in the provinces of Idzumo and Owari. His eminent contemporaries Kaibara and Dazai Jun, also distinctly repudiated the theory that the Japanese had ever had any system of writing of their own. On the other hand, in the year 1763 a Buddhist priest named Tai-nin published a work quoted by Hirata and entitled "*Iroha Bum-ben*" (伊呂皮問辨), or "Discussion on the Syllabaries," in which he ascribes the origin of the mysterious characters, of which more specimens had now

been collected from various parts of the country, to a mandate of Ama-Terasu, Goddess of the Sun ; but the documents on which he founded his theory are rejected by Hirata as forgeries. Hirata himself, the well-known scholar and enthusiastic Shintō revivalist and patriot, is therefore the first author of weight by whom the cause of the "Divine Characters" was taken up ; for he endorses Tai-nin's theory, though condemning the documents adduced by Tai-nin to support it, and he may indeed be called the protagonist of the "Divine Character" school. This brings us down to the year 1819, when the said Hirata received a visit from a second Buddhist priest named Giyō-chi, into whose hands some Korean books partly printed in the *Ōn-mun* alphabetic character had fallen. The result of this visit was Hirata's already quoted work entitled "*Shin-ji Hi-fu-mi no Den*," or "Account of the Divine Hi-fu-mi Characters," in which he adduces all the available evidence with regard to the mysterious characters, of which several specimens of very various appearance, but all supposed to be of identical import, had been brought to light, hesitates to pronounce on those in running hand, but decides that the specimens in square hand are an ancient native Japanese alphabet, which, curiously enough, is given only in a syllabic form. That this alphabet might have been borrowed from the Korean "*Ōn mun*," with which it is almost identical, is an unpatriotic suggestion which he does not think it worth while to entertain ; neither does he deign to notice the destructive criticism to which Ban Nobutomo, in the Appendix to his already-quoted work, had shortly before subjected the genuineness of the documents in question. Since Hirata's time, the subject has, in Japan itself, again sunk into discredit, and the only writers on it of whom mention need be made are the editor of the *Uye tsu Fumi*, which is, as has been already noticed, an impudent forgery, and Mr. Fujiwara no Masaoki, of whom more anon.

Now, on the negative side it must be observed that, though Japanese literature commences early in the eighth century and contains materials of a still older date, no passage which

can be construed into an allusion to the so-called "Divine Characters," or to any native system of writing, can be found prior to that occurring in the thirteenth century book already quoted from. Not only so, but—and this is, perhaps, more important still—in the national Histories, the old Poems and the early Rituals, in fact in the whole Archaic literature, there is not a single allusion to books or writing materials of any kind as having existed during the period preceding the introduction of Chinese and Korean learning. Even the apparently native Japanese name for "written document," *fumi*, is a corruption of a Chinese word, 文.¹ The same is not improbably the case with the words *fude*, "pen," and *kami*, "paper," while *sumi*, "ink," is merely an adaptation to a new sense of the word *sumi*, "charcoal." Furthermore, the early mediæval writers, Imibe no Hironari and Miyoshino Kiyotsura, who flourished at the beginning and end of the ninth century respectively, explicitly assert that there was no system of writing known in Japan prior to the introduction of the Chinese characters. On the other hand, of the three late mediæval testimonies which are adduced, we have seen that one is, to say the least, ambiguous; another not properly mediæval at all, but modern; while the third occurs in a book which is branded in the standard bibliographical work entitled "*Gun-sho Ichi-ran*" (群書一覽) as "not wanting in crude and ignorant opinions," and is borrowed from a source which is *ipso facto* suspicious. We likewise find that it is necessary to come down to the year 1819, and to the enthusiastic patriot and religious partizan, Hirata, to discover any Japanese of note accepting the theory in question, and that, moreover, even Hirata rejected as forgeries most of the evidence on his own side, and only accepted as genuine those of the specimens that were written in square hand, while since his time the cause of the "Divine Characters" has had no eminent native supporters. We also observe that these square characters are identical with those

¹ Pronounced *wén* in modern Mandarin. *Fude* and *Kami* are supposed to be derived respectively from 筆 and 簡, whose modern Mandarin pronunciation is *pí* and *chien*.

of the Korean alphabet known by the name of "Ön-mun" and believed to have been invented, or rather improved, from an earlier model, in the fifteenth century. This identification, and the further observation that the Ön-mun was based upon a Sanskrit original, are of course not new to European investigators, both having been made by Mr. Satow so far back as the year 1874, long before Mons. de Rosny's "Communication" on the subject to the "Académie." But though not new, these considerations are of great importance, for they place before us the necessity of believing one of the three things, viz. :—

I.—Either that the Koreans and the Japanese independently invented the same signs to represent the same sounds; or,

II.—That one of these nations, having invented the system in question, or adapted it from a Sanskrit original, communicated it to the other at a date so remote that it was used by the Japanese early in the Christian era, but completely forgotten by them until mediæval or modern times, when they recovered it in an almost intact condition, the Koreans having likewise preserved the same letters for the same sounds during all these many centuries; or,

III.—That the Koreans having invented or adapted it from the Sanskrit during the Middle Ages, a fragmentary knowledge of it was obtained possibly before, but more likely during, the Japanese conquest of Korea at the end of the sixteenth century, that scraps of it were then written down, preserved in temples as curiosities and brought to light soon after, at the time of the Japanese revival of learning, as sacred antiquities with regard to whose origin patriotic fancy was then allowed to have free play.

That the third alternative is the only sober one will be seen at a glance. The dates support it. The silence of Japanese antiquity and the explicit statements of the early mediæval Japanese writers support it. The fact that there is not a single important and uncontested ancient document or inscription written in the so-called "Divine Characters" supports it. The further fact that the chief vouchers of the "Divine Characters" are forgeries like

the "*Uye tsu Fumi*" supports it, even without the additional consideration that many of the characters adduced in the latter work are evidently borrowed from the Chinese, and that the system of "Fifty Sounds" according to which they are there arranged was first heard of in the twelfth century of our era, and was adopted in imitation of the order of the letters in the Sanskrit alphabet. Indeed, did we not know how strong are the love of mystery and the vanity engendered by patriotism, it would be difficult to imagine how the "Divine Characters" could ever have obtained any believers in Japan. It should be added that the believers have been very few. Hirata himself, as we have seen, was but a half-hearted believer; Arai Hakuseki, Kaibara, Dazai Jun, Mabuchi, Ban Nobutomo,—all the greatest names of Japanese erudition in the eighteenth century,—were sceptics; Motowori, the prince of Japanese *literati* and a staunch patriot and Shintō religionist, rejected the "Divine Characters" as "a late forgery over which no words need be wasted;" Moribe, the most recent eminent Japanese antiquary and philologist of the old school, passes them over with a smile; the Department of Education has recently published a work which indeed devotes to them some little space, but gives good reasons for denying their antiquity; and no English or American scholar resident in Japan, and therefore having access to the entire native literature on the subject, has accepted them as genuine. Indeed the fabricators of the documents which have given rise to the whole discussion were apparently too ignorant to give to their handiwork even that outward appearance of genuineness which would result from a careful imitation of the Archaic language; for the words into which the first portion of their syllabary is framed are *modern* abbreviated forms of the Japanese numerals, which nowhere occur in the Classical, much less in the Archaic, dialect.¹

¹ This fact, though adverted to by Ban Nobutomo as a sufficient proof of the spuriousness of the "*Hi-fu-mi*" (i.e. "one, two, three") alphabet, even if no other were forthcoming, does not seem to have been yet remarked by any European scholar. Had it been noticed by Mr. Kempermann, the sole European scholar in Japan who has—though with hesitation—subscribed to the genuineness of the "Divine Characters," it might have caused him to alter his decision.

Finally, the patriotic and theological animus breathing through all that has been written in Japan on the subject is unmistakable. The Shintō priest already quoted from, who averred that lies, if patriotic, were commendable, is but gently reprimanded by Hirata for so saying, and is indeed but a fair representative of his school, to whom the glorification of Japan—and especially the glorification of Japan at the expense of China—is the chief object of existence. Over and over again are we asked to consider whether it is likely that the Holy Land of the Gods should have lacked an art which such wicked barbarians as the Chinese and Europeans possess; and one of Mons. de Rosny's authorities, Mr. Fujiwara no Masaoki, gravely suggests that the European alphabet had its origin in the Divine Characters of his own August Country, Japan! Another assertion of his that the difference between the mental characteristics of the Japanese and Europeans may be seen in their very systems of writing, the "Divine Characters" being straight while those of Europe are as crooked as the hearts of the persons who use them, is perhaps hardly consistent with his previous theory of the Japanese derivation of the Roman alphabet. But when patriotic and religious prejudice comes into play, logic is apt to go to the wall. Of this the manner in which Hirata seeks to account for the total disappearance of the supposititious native alphabet on the introduction of the Chinese characters, is another instance. It was owing, says he, to the greater difficulty of the former. Now, as any one may prove for himself who will look at the Korean alphabet, it is in reality the simplest in the world, and can be learnt in an hour, whereas the Chinese ideographic system requires of him who would even but partially master it several years of patient study.

Where the negative evidence is so complete—in as far as negative evidence can ever be said to be complete—it were superfluous to adduce *a priori* reasons against the likelihood of the invention by so rude a nation as the Archaic Japanese of the simple and scientific alphabet that has been attributed to them, or indeed of any system of writing whatever. Their

first steps in the direction of forming for themselves a written system apart from the Chinese—the “*Wo Koto Ten*” system—are recorded in history, though apparently little known in Europe, and give us a striking example of the slowness of the process by which a system of writing is evolved, even after the idea of the possibility of such a thing has been imported from abroad. Persons whom the technicalities of the subject may not repel are recommended to read the first part of Mr. Satow's essay on the “Transliteration of the Japanese Syllabary,” published in vol. vii. part iii. of the “Transactions of the Asiatic Society of Japan,” in which all the authentic information concerning early Japanese writing has been brought together and discussed.

Before concluding, and as an illustration of the ease with which people in search of things at once mysterious and novel may get misled, an extraordinary error into which Mons. Léon de Rosny has fallen with regard to the “*Ko-ji-ki*” must be mentioned, for it is *à propos* to the subject that has just been discussed. Mons. de Rosny tells us, namely, that he has discovered the proof that the “*Ko-ji-ki*” was most probably composed in the “Divine Characters” (this, be it said, quite regardless of the fact that the Japanese author of the “*Ko-ji-ki*” explicitly states in his Preface that he has composed it in Chinese characters, some of which are to be read phonetically and others ideographically). The actual proof—so-called—of Mons. de Rosny's assertion is the already-quoted passage from the Shintō priest whose conscience allowed him such latitude in the matter of truth where patriotism was concerned; but as an illustration and an additional, so to say, quasi-proof, Mons. de Rosny adduces Mr. Fujiwara no Masaoki's reprint of the “*Ko-ji-ki*,” published in 1871, and in which the modern Japanese reading of the entire Chinese text as established by Motowori some eighty years ago is reproduced in the “Divine Characters.” Now it was of course open to Mr. Fujiwara to reprint in the “Divine Characters” Motowori's reading of the “*Ko-ji-ki*.” But the fact of his having done so goes no further towards proving that the “*Ko-ji-ki*” was originally written in these “Divine

Characters" than the existence of a stenographic reprint of the Authorized Version of the New Testament proves that St. Matthew and St. Mark wrote their Gospels in shorthand. Mons. de Rosny seems himself to have some misgivings on the subject; for he adds: "the editor has unfortunately omitted to inform us of the origin and history of the text which he presents to us."

But then again must it be asked: Why quote modern trivialities as if they were precious relics and vouchers of antiquity? The reputation of Altaïsm as a study resting on a firm basis cannot but suffer by so injudicious a course, for serious people may be led to think that Japanese erudition is productive chiefly of mares' nests. That undoubtedly would be too harsh a judgment, and the present writer trusts he has shown that in Japan, as elsewhere, archæological questions must and can be decided according to the usual canons of criticism. His only fear is lest precise quotation of authors and a sifting of evidence which leads to negative results may lack the immediate interest and attractiveness that attach to brilliant, though unfounded, theories.

ART. XIII.—*Two Sites named by Hiouen-Thsang in the 10th Book of the Si-yu-ki.* By the Rev. S. BEAL.

HIUEN-THSANG, towards the end of the 10th book of the *Si-yu-ki*, alludes to a celebrated mountain called Potakara, on which Avalokitesvara was accustomed to reside.

The question of the origin of the worship of this deity by the Buddhists is so interesting that I was led, when engaged in the translation of the *Si-yu-ki*, to inquire further into the subject. I gladly submit my conclusions to the notice of this learned Society.

It is well known that Avalokitesvara is venerated in China and Japan, as "the god, or the being, who hears (perceives) the cries of men" (*Kwan-shai-yin*). I need not remark that the worship of any divinity is, on abstract grounds, foreign to the principles of Buddhism, nevertheless we find the worship of Amitābha and of *Kwan-shai-yin* almost universally prevalent in the countries above named.

In India the name of "the god who hears the cries of men," or "the god of mercy," is unknown. He is called "the looking-down god" (*Avalokitesvara*), or the "god who looks every way" (*Samanta Mukha*), and is generally invoked (1) by those in distress or (2) as an oracle.

In reference to those in distress, it will be remembered that the greater portion of the section relating to this *Bodhisattva* in the "*Lotus of the Good Law*" (Cap. xxiv.) is devoted to an account of the circumstances in which his help may be invoked, whether in case of shipwreck, or among robbers, or against evil demons, etc., and the representations of *Avalokitesvara* at Ajantā are similarly descriptive (Cave xvii. iv. *Burgess*).

In reference to his oracular character, there are many instances of this given in the travels of the Buddhist pil-

grims. Perhaps the most striking is that found in the 5th book of the Si-yu-ki, where we read of Silāditya consulting¹ the figure of Avalokitesvara by the side of the Ganges. He fasted and prayed till the god appeared. He then demanded his "holy opinion" or the "sacred will," that is, his sacred direction in the position of affairs. The reply was given with the brevity of an oracular response; the Bodhisattva promised his aid on one condition—

Fi shing sse tseu che tso

Fi tching ta wang che ho—

that is, if he neither assumed the title of Mahārāja nor ascended the throne as king. Besides this we have an account in the life of Hiouen-Thsang of an image of Avalokitesvara on the isolated hill to the south of the Kapota Convent, which was consulted with fasting and prayer; the custom was to fling wreaths of flowers through a lattice work, and if they caught the arms of the figure and rested there, the omen was regarded as good. The pilgrim Hiouen-Thsang thus consulted the oracle, and obtained three propitious results. I may add that I have seen a similar figure of this Bodhisattva in a latticed apartment or cell, in a temple yard in Hakodate, consulted in precisely the same manner.

It would seem that Avalokitesvara was a hill god. The idea of "looking down" implies this. Hence we are told by Hiouen-Thsang that he was accustomed to reside on Potaraka. Wong Puh, in his life of Buddha (or his commentator), tells us that it was on the hill of Potaraka that Buddha delivered the discourse called Avalokitesvara with twelve faces (§ 94). The figures of the Bodhisattva, or his temples, are generally stated to be on hills or in hilly districts by Hiouen-Thsang. This is not always so, but frequently enough to establish the rule. On the high hill at the back of the town of Hakodate, in Japan, I have frequently visited the thirty-three figures of this deity, called in succession *Itsi ban*, *Ni ban*, down to *San jeu san ban*, which represent the thirty-three temples

¹ The expression *tsing ts'z* does not mean "to pray" merely, but "to ask for a response."

throughout the empire dedicated to Kanon, and to which a celebrated pilgrimage called *Ra Ku Yo* was instituted by the 112th Dairi (1659 A.D.). From this it appears that the original idea of the Bodhisattva was that of a mountain deity, the temples or shrines dedicated to it in the flat country being referred to a mountain where the cultus arose.

The leading feature of the worship of Avalokitesvara is connected with the attribute of "hearing prayers." The accounts given by Hiouen Thsang invariably point to this. After fasting and prayer, the god comes forth from his statue or place of abode and appears to the suppliant "speaking graciously." There is no need then to suppose that the Chinese title of Kwan-shai-yin, borrowed also by the Japanase, is a mistaken version of Avalokitesvara, the word *svara* being substituted for *isvara*. This opinion, which has received support from many learned quarters, appears to me groundless. Among the multitudinous translators of Sanskrit or Indian books in China, surely some one would have detected this fault, if fault it was, of interpretation. But so far as I am aware the supposed error is unknown to native scholars.¹ Fa-Hian on leaving Ceylon prayed to Kwan-shai-yin; was he in using this expression mis-translating another word, or was he using a term well understood, with a definite meaning? The title was given to Avalokitesvara because of this attribute "of hearing"; just as the name "Ta pi," or "Ta pi sin" (the great merciful one, the great merciful heart), is applied to the same deity because of this attribute of mercy; or the title Kao-wang, the high monarch, from his supposed dwelling on the hill tops.

We come then to consider the origin of this worship. I would trace it to the legend connected with Mount Potaraka. This is what we read on the 22nd page of the 10th chapter of the Si-yu-ki.

"To the east of Mount Mo-la-ye there is a mountain called Pu-ta-lo-kia, the passes along which are steep and dangerous. . . . On the top of the mountain is a lake whose waters are

¹ I have indeed seen a remark in the *Fan-i-ming-i-tsi*, to the effect that the name Kwan-shai-yin come from Nepal. (I quote from memory.)

clear as a mirror; through a hollow from a cavern the water issues forth as a great river, which encircles the mountain twenty times and then falls into the Southern Sea. By the side of the lake is a stone deva palace, this is the dwelling of Avalokitesvara as he comes and goes on his wanderings. Those who make a vow to behold the Bodhisattva take no thought of their life, but, forgetful of all difficulties, cross the water, scale the mountain, and even then there are but few who succeed in gaining their desire. To those who dwell at the foot of the mountain, and who pray with earnest mind that they may see him, he sometimes reveals himself, either as Isvara or as one of the Pasupata heretics; then speaking to his worshippers in benevolent language, many of them obtain their desires."

There is some obscurity in this account. Taken in connection with the context, it is plain that Hiouen-Thsang is only telling us what he heard. He did not himself go further south than Mo-lo-ku-c'ha.

From this place, *i.e.* Conjeeveram, he says, going south 3,000 li we come to Mo-lo-ku-c'ha. Julien says, "from this country," but there is no word for country. As a rule, when Hiouen-Thsang says "going from this," he means from the capital of the country where he had last come, and he reckons generally to the capital of the next country. Now, 3,000 li due south of Conjeeveram would take us out to sea; but I would not on this account venture to tamper with Hiouen-Thsang's figures, but suppose he refers to the distance traversed by merchants. General Cunningham suggests 1,300 li for 3,000, but there is no authority for such an alteration of figures; nor can we adopt the 300 li given by Julien in a note on p. 193 of the *Life of Hiouen-Thsang*. This appears to be simply a printer's error.

What Hiouen-Thsang says, then, is, going south from Conjeeveram 3,000 li, we come to the Mo-lo-ku-c'ha country. There is a note in the original which tells us that the country is otherwise called Chi-mo-lo. This may be restored to Kūmor: it is thus restored by M. Vivien de St.-Martin¹ on indepen-

¹ That is, he identifies Chi-mo-lo with Kumârî (*Jul.* III. 399).

dent grounds. M. Julien suggests Tchimor, and General Cunningham Jhimura, as a variant form of Limurike. But the final symbol, "lo," in the original, coalesces with the "mo," as Julien shows in his restoration to Tchimor. But is there such a place or country?¹ Whereas, by using the perfectly legitimate equivalent of Ki for Chi,² we arrive at Kīmor, or Kūmor. (Compare the modern change into *Komorin*.) Respecting the use of Kūmar for Kumārī, there is an observation of Dr. Caldwell's in his grammar of the Dravidian languages, Introd. p. 98, where he says, "Komar derives its name from the Sanskrit Kumārī, a virgin; one of the names of Dūrgā, the presiding divinity of the place. In ordinary Tamil, Kumārī becomes Kumārī, and in the vulgar dialect of the people residing in the neighbourhood of the cape, "a virgin" is neither Kumārī nor Kumārī, but Kūmār.

Moreover, the author of the *Periplus* tells us that next to Balita, on the south-west coast, is Kumar. There can be little doubt, therefore, that the Chi-mo-lo of Hiouen-Thsang refers to the southern region of Travancore and the cape Komorin.

But now, Hiouen-Thsang says to the south of this country is Mount Mo-la-ye. The symbol "la" in this compound differs from "lo" in the previous one, viz. in Mo-lo-ku-chi: this latter might be properly restored to Markuṭa; but in the former we must read Malaya. Where, then, is this Malaya mountain to the south of Kūmar? If we suppose that Hiouen-Thsang speaks of the capital, Madura, and reckons south from that, then we should naturally seek the mountain named in the extreme south point of the Peninsula; but I cannot help thinking he speaks of the Malaya mountain of Ceylon.³ We must remember he is reporting what he had heard. And this mountain Malaya, in which was the celebrated cave of Aloka, where the Buddhist Scriptures were translated, or rather committed to writing, B.C. 75, is a place

¹ I observe that on p. 530 (vol. iii.) Julien restores Tehi-mo-lo to "*Tchimala*," or, "*Simour* according to M. Reinaud."

² Jul. *Méthode*, No. 1846.

³ Malayo, a mountainous district in Ceylon, of which Adam's peak is the centre.—Childers's Pāli Dict. sub. voc.; see also Eitel's *Handbook*.

that would naturally be named in conversation about Buddhist matters.

I am of opinion, therefore, that Hiouen-Thsang is here speaking of the Malaya mountain of Ceylon.

Next he says, east of this is Mount Po-to-lo-kia. I think this refers to Adam's Peak or Sumanakûto.¹

Certainly if we are to follow the statements of Hiouen Thsang, we cannot make Potaraka a portion of the Nilgherries, Three thousand li to the south of Conjeeveram, and still south of that, and east again of this, cannot bring us to the Neilgherry hills. Nor do we know of any peak there, sacred as a place of pilgrimage and the residence of a Bodhisattva, or a deva, with a lake on the top and a river flowing into the Southern Sea. Nor do we ever hear of Buddha visiting this mountainous region, as he did Potaraka and Adam's Peak. There is therefore no reason for placing the celebrated mountain *there*.

In order to clear the point, I will extend this inquiry a little further.

There are at least four places known as Potaraka in the Buddhist records.

The first is at the mouth of the Indus, the original residence of the Sākya family, who reigned at Potala.

The second is this Mount Potaraka in the Southern Sea.

The third is the island of Poo-to, off the Port of Hangchow in China.

The fourth is Mount Potaraka at Llassa, the residence of the Dalai Lama.

With respect to the first on the Indus, in the Greek accounts, in Arrian for instance, it is called Pattala. General Cunningham refers to Arrian's statement that in the Indian language Pattala means a delta. From this he derives the name of the port from Pātala, the trumpet-flower, because of its shape.

¹ It might indeed be referred to the mountain called by Ptolemy *Dittiga*, a detached mass of the Ghâts south of the Coimbatore Gap, apparently the true Malaya of the Pauranik Mountains. The most prominent mountain in this mass is called in Old Tamil Pothigā (Robert Sewell, Arch. Survey of South India, vol. i. p. 252). But in the absence of information as to this mountain, and considering the celebrity of Mount Potaraka, we can hardly think that this is so.

But Potala, I will venture to suggest, is really "the place of, or that which holds, the boats," *i.e.* the harbour. The starting-point, in fact, as it was the place of disembarkation for merchants and sailors.¹ This name was corrupted into Pattala, and afterwards referred by the Greeks to the Indus delta under the name of Pattalene.

Coming now to Mount Potaraka. I suppose this is the same as Adam's Peak. But whence its name?

The Chinese writer Wong Pûh (or rather his annotator), in the 94th section of the work, says that "Buddha preached a sermon on the subject of Avalokitesvara with twelve faces on Mount Potaraka," and he adds, "this mountain derives its name from the fact that it produces a great number of little white flowers, the scent of which is perceived from far." Is this little white flower of fragrant scent *the white jasmine* (Sumanâ)? If so, it would imply that Potaraka and Sumanakûto are the same.

But again, another name for Sumanakûto is Samanta. Speaking of Ceylon, Mr. Spence Hardy² has this remark: "The first place he (*i.e.* Buddha) visited was the residence of the Nāgas on the river Kalyāna, the water of which previously falls on the mountain Samantakuta, as if to clear it from all impurities. The deva of Samantakuta, Sumana, having heard of Buddha's arrival, went to where he was, and after he had worshipped him he presented a request that he would leave an impression of his foot on the mountain of which he was guardian." The deva then recounts the praises of the mountain, the flowers, the bees, the birds, etc. After this Buddha proceeds to the mountain through the air, at his right hand was Sumana in beautiful garments and rich ornaments, etc.³

¹ This I find is the derivation given by Mr. Csoma Körösi.

² Manual of Buddhism, p. 211.

³ In reference to this last remark, it appears to throw light on the plate given in Mrs. Speirs' History of India, on p. 370, and which is copied from the Ajantâ cave (xvii.). She calls it a picture of holy Buddhists floating through the air—it is, I think, Buddha going to Samantakuta with Sumana in beautiful garments and rich ornaments on his right hand, through the air. Is not Sumana here holding in his hand a little flower? (See also *Burgess*, Report on the Ajanta Rock Temples, Cave xvii. 10.)

The word Samanta appears to refer to the universal aspect or look-out of this famous peak. Ibn Batūta saw it for nine days as he approached the island. He who presided on its top might well "look down" on the world beneath him as guardian and keeper of it. But Avalokitesvara, who resides on Mount Potaraka, is the "looking-down god," and his common name is Samantamukha,¹ "looking every way"; can we doubt that Potaraka, celebrated for its little white flowers, was Sumanakūṭa, and that Avalokitesvara, known as "Samantamukha," was the same as the deva of Samantakūṭa?

Mr. Upham, in his translation of the Rāja Ratnâcari (vol. ii. p. 9) has the following: "In the time of the second Buddha . . . the place which is now called Dawa Coota was then called Suma Coota . . . to remove the three evils that desolated the land, Buddha came flying through the air and alighted on Adam's peak, where the print of the former Buddha's foot was to be seen; and there looking to the ten different points, he wished within himself that the empty cisterns and dry fountains of Ceylon might be filled with water." This wish was immediately gratified by the collection of 100,000 clouds, and by the falling of the grateful rain. Then, in relation to the present Buddha, the same writer records, "that having converted four times three thousand snakes to his religion, they offered to him an infinity of offerings and thanksgivings, which the god Saman Deva Rāja, looking westward from Adam's peak, beheld, and rejoicing said: 'Now Buddha is come to Ceylon what I greatly longed for shall come to pass.' Then with his train he presented himself before Buddha and worshipped, saying: 'O Buddha! beholdest thou this lofty rock, the name of which is Sumana Kuta . . . vouchsafe to add one gem thereto by leaving the impression of thy foot thereon.' . . . Then Buddha, turning his eyes towards the East, beheld the spiral top of the elevated mountain, as the woman of the island of Ceylon," etc.

In these extracts it is enough to observe the reference of

¹ See "Lotus of the Good Law," p. 428.

Buddha looking to the ten different points, and the comparison of the mountain itself, *i.e.* Samanta, to the *woman* of the island of Ceylon.

But why was the name Potaraka given to this peak. I think we may derive it from the harbour of Pattala, of which Ibn Batūta¹ speaks. It was here, he says, the Malabar merchants arrived, and from it conveyed the scented woods, cinnamon and aloes, that lay scattered on its borders. I argue, therefore, that the name of the mountain Potaraka is derived from the harbour Pattala, or Putlam, the place of disembarkation.²

I will now refer to the statement of Fa-Hian that there were Sa-pho merchants resident in Ceylon during his time, and that their houses were very beautifully adorned (Fa-Hian, p. 154). Were these Sa-pho merchants Sabæans? If so, we cannot doubt they brought with them to Ceylon their own religious terms and ideas. One of the most frequently invoked deities amongst the Sabæans was the god known as Al Makah, or "he who hears" (*vid.* Tiele, *Outlines, section on the Sabæans*). I argue that this term was applied by these Arab merchants to Sumana, and that under his name of "the looking-down god," or Avalokitesvara, he was regarded as hearing prayers, especially those of the sailors who arrived at or left the island over which he presided. Here we have the key to the name "Kwan-shai-yin," a name used by Fa-Hian, and very probably learned by him from those very merchants amongst whom he lived in Ceylon.³

The island of Socotra, derived from Sukhâdhâra (see Müller, *Geog. Grec. Min.* p. 190 n.), may probably have given rise to the idea of the Western Paradise (Sukhâdhâra and Sukhâvatî being convertible).

¹ Lee's Translation, p. 184.

² As the delta of the Indus was named after the harbour. Compare also (*inter alia*) Table Bay named so after Table Mountain.

³ It is worthy of remark that whilst on the one hand Hiouen-Thsang constantly invoked the name of Kwan-yin, from the time he set out on his journey (see the first chapter of his Life), Fa-Hian does not once allude to this deity until just after leaving Ceylon, when "he invoked Kwan-shai-yin and all the Buddhist saints of China" (cap. xl.). Did he learn the character of Kwan-yin from the Sa-p'ho merchants? The invocation of "the holy men of China" (Sâini) is also a Persian custom. (*Sacred Books of the East*, xxiii. 227.)

It is singular to find that in the earliest times Socotra was regarded as an "island of paradise" (see W. Golenischeff, "Sur un ancien conte égyptien," in the *Verhandlungen des fünften internationalen Orientalisten-Congresses*, Zweiter Theil, p. 112). As the Arab sailors therefore brought their knowledge of the "god who hears" to Ceylon, and identified him with Sumana or Avalokitesvara, so, also, pointing to the Western sea, dyed with the sun's rays as he sank downwards, they would speak of the paradise there, and the neighbouring coasts of Pun't, where frankincense and gold and myrh were found, and all things were "happy" or "abundant."

It was through intercourse with the Arab merchants that these ideas of a "god who looks down" and of "a paradise in the west" were first incorporated into Buddhism. They were not adopted in Ceylon, but on the neighbouring mainland they speedily took shape, so that one of the forms under which Kwan-yin is worshipped is that of Durgâ, or Chandâ,¹ who is, in fact, the same as Parvatî. All these were hill deities, and I am persuaded that it is in this direction we must expect to find the explanation of the gradual corruption of early Buddhist beliefs. When the power of the Buddhist doctrine declined, the people reverted to a form of worship which seems at one time to have been almost universal, viz. the adoration of the gods of the mountain heights. In this way there was a return to the old type;² and so Buddhism in India disappeared.

The Chinese sailors who frequented the island during the earlier centuries of our era, carried the news of this famous Mount Potaraka to their country, and as they neared the harbour from which their ships mostly set out, viz. Hangchow,³ they passed the Chusan Islands, and in keeping with the Southern tradition they called one of these islands

¹ Called in Chinese *Kwan-yin-chan-ti*, Kwan-yin (called) Chandâ (see my *Catena*, p. 411). In this Sûtra she is also called Jagatî or Jagan-mâtrî i.e. Durgâ.

² It is surprising how this law holds good in the spiritual as in the physical world (compare Darwin).

³ Hangchow, or Kanpu, was the port frequented by the early Arab voyagers. Yule's *Marco Polo*, vol. ii. p. 156.

by the same name, viz. Poo-to, or Potaraka. This island they consecrated to the worship of Avalokitesvara or Kwan-yin, "The god who hears or perceives the cries of men—especially of those in danger," and under this aspect she is worshipped at Poo-to, or Potaraka by the Chinese.

There is a fourth Potaraka named in Buddhist writings, viz. the hill at Llassa on which the Dalai Lama's palace or residence is built. The Dalai Lama being an impersonation of Kwan-yin, there is no difficulty in accounting for the name of the place of his residence. But even more naturally as a hill god, and probably the same as Nanæa, the place of Kwan-yin's especial worship would be referred to the hill on which the Lama's residence is built, and hence be called Potaraka, borrowed in fact from the Chinese Poo-to. So much therefore concerning the Potaraka of Hiouen-Thsang.

The second site I proposed to examine is named in the tenth chapter of this work on the fourteenth page, where we read: "To the south-west of this country (*i.e.* Kosala), about 300 li, we come to *Po-lo-mo-lo-ki-li* mountain. This mountain rises high above the rest, its lofty peak is difficult of access, it has no valleys or broken sides, but rises like a solid block of stone. King Sadvaha excavated the middle of this mountain side for the benefit of Nāgārjuna Bodhisattva, and founded therein a Saṅghārāma. At a distance of ten li or so (I think 數 is for 餘) from the mountain he made a tunnelled entrance under the mountain. Looking up at the hollowed rock, we observe the long avenues, the open verandahs, the towers and turrets of many storeys. There are five stages of these, and each stage has four halls—in all there are vihāras, each of which has a statue of Buddha, of cast metal (like) gold, and of life size. These figures are wonderfully executed, and each one severally adorned with gold and precious stones. From the summit of the mountain a leaping waterfall descends, and as a stream passes through each of the chambers and round the galleries. Windows are hewn out of the rocks, which admit light into the interior of the chamber." The account then goes on to state how the money necessary for completing this work was supplied by Nāgār-

juna's power of alchemy, and then is added that Nâgârjuna collected the precepts of the law delivered by Buddha, and all the treatises which had been written by the Bodhisattvas; he also collected and placed in this convent "the exceptional piṭaka," or collection of miscellaneous works known as the "exceptional piṭaka" (that is, the Sannipâta).

In this there is need of careful examination, and I shall proceed to offer some remarks upon it. In the first place it seems probable that Julien is mistaken in his restoration of the name of the convent Po-lo-mo-lo-ki-li, which he converts into Paramalagiri, and in a note adds that this is at the present time called Baramulaghiri. Gen. Cunningham is quite puzzled where to find such a place, and attempts in various ways to explain the name and its supposed Chinese equivalent, the "black peak." (*Anc. Geog. of India*, p. 523.)

But by restoring Po-lo-mo-lo, as we ought to, to Brahmara, *the black bee*, a well-known title of Durgâ,¹ the whole matter is settled; and that this is the only restoration possible or allowable is plain from the Chinese translation of the word which is given as 黑峯, instead of 黑蜂, *i.e. the black peak*, instead of *the black bee*. *Fung* in both cases being the phonetic value of the symbols used.

No one will doubt that this Brahmara rock or mountain, consecrated in fact to Durgâ or Parvatî, is the same as that referred to by Fa-Hian in his thirty-fifth chapter. He calls it a convent of the former Kasyapa, and describes it as consisting of five storeys, with a spring on the top and windows to lighten the chambers, just as Hiouen-Thsang does; and then, he says, the bottom storey was shaped like an elephant, the second like a lion, the third like a horse, the fourth like an ox, and the fifth like a pigeon, and he adds the whole mountain is called Po-lo-yu, from an Indian word signifying pigeon. But *Po-lo-yu* is the Chinese form of Parvatî, and Parvatî is Durgâ, and Durgâ is Brahmara—so what Hiouen-Thsang says, and Fa-Hian also, is that this hill was dedicated to Durgâ or Parvatî, and hence was called Brahmaragiri.

¹ Brâhmara; an epithet of Durgâ or Parvatî. (Mon. Williams Sans. Dict. sub voc.)

I do not intend to go further into the question. I shall be satisfied if I have shown that Potaraka, the residence of Kwan-yin, is in fact the same as Adam's peak, the abode of Sumana, the Al Makah of the Arabs, and if the mysterious convent of King Sadvaha is certainly the mountain of Brahmara, *the black bee*, the synonym of Durgâ or Parvatî.

* * I think it right, as I differ in my translation from so eminent a scholar as Stas. Julien, to give the Chinese characters for the sentence translated on the preceding page, which Julien renders "il les réunit ensemble, les divisa par sections" (iii. 104). The Chinese is 鳩集部別藏. I think the last four symbols refer to the works called Sannipâta. (*Vid.* my Catalogue of the Buddhist Tripiṭaka, p. 3, also Mr. Bunyiu Nanjio's, p. ix.)

ART. XIV.—*Two Early Sources for Mongol History.* By H.
H. HOWORTH, F.S.A., M.R.A.S.

DEAR MR. CUST,—Will you allow me to supplement Professor Julg's very interesting account of the authorities and materials available for Mongol history and philology by some additional notes upon two works overlooked by him. By far the most important of these is a work published by the Archimandrite Palladius in a Russian translation in the fourth volume of the *Memoirs of the Russian Ecclesiastical Mission at Peking*, and which he styles the *Yuan chao mi shi*. The syllable *mi* being the popular pronunciation of the character pronounced *pi* in the Mandarin dialect, Dr. Bretschneider has adopted the title *Yuan chao pi shi*, in which I have followed him in a detailed account of Chinghiz Khan and his Ancestors, which I have been publishing for some time in the *Indian Antiquary*, and in which the contents of this work are incorporated. The *Yuan chao pi shi* is in every way a remarkable work and contains the most valuable materials for the earlier life of Chinghiz Khan, and for that of his ancestors, which are available anywhere. This work, which is anonymous, was according to the postscript finished during the reign of Ogotai Khan, the son and successor of Chinghiz Khan, at a place called Kodeiaral, on the river Kerulon, at a grand Kuriltai, or assembly held there in the year of the Mouse, *i.e.* 1240 (*op. cit.* 160 and notes 659 and 660), and I am *tempted to think* that in its original form as written in Mongol, it was essentially the same book as that quoted by Rashid-ud-din, as his most valuable authority, which he calls the *Altan Deftar* or *Golden Register*, and which, he says, was preserved among the secret archives of the Mongol dynasty. *Yuan chao pi shi* means "The secret or family history of the Yuan dynasty," which makes the conjecture more probable. As a secret document it

apparently remained in manuscript and formed part of the palace archives, called in the Yuan chi, or official history of the dynasty, Tobchiyan. I shall take the liberty of bringing before the Society the admirable description of the work given by Palladius in his translation. It is first referred to after the expulsion of the Mongols from China in a work entitled Hung wu shi lu, *i.e.* "Detailed record of the reign of Hung wu." In the notice of the fifteenth year of Hung wu (*i.e.* 1382), in that work we read, "In this year it was ordered that a compilation of a comparative vocabulary of Chinese and Mongol words should be made. The Yuan dynasty not having had originally letters of its own for its official and public acts, used those of Kao chang (*i.e.* of the Uighurs), and formed out of them the Mongol letters. Lately the Emperor ordered a member of the Han lin (*i.e.* of the Academy), Jan-yoan-tsin, and the secretary, Masha ikhe, to translate Mongol words into Chinese. Thus the words connected with astronomy, geography, and the accessories of life, such as clothes, food, etc., were translated. They afterwards made a transcription of the *Yuan chao pi shi* into letters (*i.e.*, Chinese characters), and adapted it to their tones and pronunciation. When this was complete, it was ordered to be printed and published" (id. 4). What was really done is explained in other references, contained in a description of the Imperial Library, and it was this. The work was originally written in the Mongol language and in Uighur characters. The Mongol words were syllable by syllable transliterated into Chinese characters. Lastly, a translation of this transliterated Mongol text was made into Chinese, so that there were in fact three texts of the work: I. the original Mongol; II. the transliterated Mongol, called Tonic by Palladius; and III. the Chinese translation. Although it is not stated in the above extract that the translation, as well as the transliteration, was made by the Commission of Hung wu, Palladius says this must have been so, since it contains several names which existed only at that time. The tonic text has no title; that of *Yuan chao pi shi* has been given to the translation by the translators. The original document was

placed in the library of Nanking. When, in 1406, the capital was transferred to Peking, duplicates and examples of books in the library at the former place were transferred to Peking in 100 boxes, and became the foundation of the Peking Palace Library, which presently became a very rich one, its catalogue containing 20,000 distinct works. Yun li ordered a special reference library to be formed out of the books he had brought together, and which included many works of the Yuan period. This reference library was called Yun li da dian. A Commission was appointed to arrange it, and we are told that it arranged the books in rows, and broke some of them up into various divisions, called *tsiuan* by the Chinese. The Yuan chao pi shi, which had previously been a continuous narrative, was thus divided into fifteen tsiuan in eight volumes. The Yun li da dian is still preserved in the Library of the Academy, Hanlin. This copy does not contain the original Mongol text, only the tonic text and the Chinese translation. A blank space is left, however, for its insertion.

Mention of the Yuan chao pi shi is made in several works of the last three centuries, and, *inter alia*, an incomplete copy of its genealogies was published in the collection named Sang tsai tu khoi, and in the history of the family Wang sung tin fu compositions belonging to the end of the Ming dynasty. Klaproth translated this extract in his "Memoires relatifs à l'Asie."

Again, the author of a detailed catalogue of books collected during the reign of Kian lung, and known as Shi ku tsiuan shu mu lu, mentions the Yuan chao pi shi, remarking that its contents are in reality the same as those of the work of Ssanang Setzen, whose narrative was about this time translated into Chinese under the title Ming gu yuan lo. It is evident, says Palladius, that these authors did not take the trouble to read the Yuan chao pi shi further than the notice of the genealogy of Chinghiz Khan, which greatly resembles the pedigree as given by Ssanang Setzen.

In 1748, Van-guan-dai composed an epitome of the Yuan chao pi shi under the name of Yuan mi shi lio. He changed the order of the text, and divided his edition of it into two

tsiuan instead of fifteen, as in the original. This epitome was preserved in manuscript in a private library in the town of Yang jou fu, and was printed in 1847 by Yan fi tsi in a work entitled Jao-dai-tsung-shu. In a note appended to his edition, Van guan dai says he had only set forth the substance of the work and avoided its absurdities, but a comparison of the epitome with the original shows according to Palladius that he thought it prudent to omit many difficulties (id. 9).

The learned Tsian da sin, who wrote at the end of the last century and the beginning of the present, was the first to appreciate the importance of the Yuan chao pi shi, which is much enhanced by the unsatisfactory character of the other Chinese authorities for early Mongol history, such as the Yuan shi (*vide infra*), and he accordingly welcomed this work as a most important contemporary document.

More lately, Siui Sun, the author of the work Si yui shui dao tzi, *i.e.* the water communications of the Western Empire, paid much attention to the Yuan chao pi shi, in which he had such implicit confidence that he discarded as untrustworthy all notices found in other authorities which were either different to or omitted from the Yuan chao pi shi. He intended publishing the work, and prepared some rough notes for the purpose, but died, in 1847, before he was able to finish his labours.

The unabridged text was first published in 1848. A rich salt merchant named Yan, who was ambitious to publish some of the rarer works of his country's literature, employed two learned men named Jan shi tsi, otherwise called Jan mu, and Khe tsin tao to edit a collection for him. The first work in this collection was the Yuan chao pi shi, which was edited by Jan mu, who obtained a transcript of it through the librarian of the Han lin yuan, who got him admission to the Academy. There he looked over the treasures, and settling himself down for a time in one of the halls, had the perseverance to copy single-handed several rare compositions, including the Yuan chao pi shi. He afterwards collated his copy with one in the possession of the family Khan, which had been copied

or transferred from the original on to thin tissue paper. The work was printed in 1848 under the auspices of the two editors just named. Palladius says their text differs somewhat from the copy in the possession of Siui Sun. In 1853, when the rebels threatened Peking, Yan went to his native place in Shan si, and took with him the wooden types for printing the projected collections. Few other works besides the Yuan chao pi shi were actually published in this edition, and of the latter only a few copies were printed. It was from one of these that Palladius translated his version. Dr. Bretschneider tells us that after Palladius had published his translation, he happened to obtain a MS. copy of the Ming edition of the work accompanied by the tonic text. (Notices of Mediæval Geography, etc., 15.) This copy was apparently taken to St. Petersburg, and I learn from my distinguished friend Baron Victor Rosen that it is about to be published in facsimile, with a translation and notes by M. Posdnef, who is well known as a Mongol scholar. We shall thus for the first time have access to the unabridged text. To this I would add that my very learned friend Mr. Wylie, when in China, ordered a copy to be made from an example he met with in a private library in Southern China. Unfortunately the outbreak of the Rebellion caused the destruction of this library, when only one volume had been copied. This volume has been presented to me by my friend, and I hope to place it in the hands of M. Posdnef for collation with his edition.

Meanwhile, we are fortunate in having Palladius' translation of the 1848 edition with his admirable notes. He describes the work as written in a remarkably simple and naïve style seldom met with in Chinese chronicles. It deals chiefly with the events of the life of Chinghiz Khan down to the time of his first invasion of China. Of his conquests beyond the borders of Mongolia it speaks in a jejune fashion, and often differs from other authorities. Palladius says that after a careful examination of the work, he is convinced that it was not all written by one person, but from narratives of various eye-witnesses, whose accounts were thrown into

narrative by the compiler, thus differences and even contradictions have been introduced.

The Chinese text of the *Yuan chao pi shi* is written in a peculiarly rude and rustic style, which has made it the subject of criticism and even of contempt on the part of Chinese scholars. Palladius says that its language is ruder than that found in Chinese dramatic pieces and tales, and contains idioms not elsewhere to be met with. This style is very interesting, since it seems to have been purposely adopted, not only in translating the *Yuan chao pi shi*, but also in the State documents and manifestoes of the Mongols, and especially the Mongolo-Chinese code of laws, *Yuan chao dian jan*.¹ So constant is the adoption of this peculiar rustic dialect in translations from Mongol, that when a work is extant both in Chinese and Mongol, and the former is in the classical Chinese, we may be sure that the Mongol text is not the original, but a translation. This rustic dialect, Palladius says, was more adapted for the expression of the grammatical peculiarities of the Mongol language than the cramped, indefinite, and to the Northern nomades, largely incomprehensible learned Chinese style, and it afterwards became the fashion to use it in most translations from foreign tongues, not only in the Yuan period, but in that of the Ming also, while the Muhammedan writers on China, when quoting a text from the Koran, translate it by this same dialect.

This dialect, Palladius suggests, was brought by the Mongols into China, or was learnt by them from the people living on the northern frontier, where the previous Tartars had no doubt sophisticated the tongue very greatly. It presents many difficulties for the Chinese reader. Many expressions in it are either obsolete or used only by the Mongols in China, or have an entirely different meaning than that which is indicated by the signs; to which is to be added the difficulty of the subject, which only a person

¹ This, says Palladius, contains 2000 headings, and comprises the various decisions of the Emperor, as given by him in Mongol, and thence translated into Chinese. It is still extant in manuscript.

well acquainted with the habits and inner life of the Mongols could compass. Again, the original terms in the Mongol text have not always in the translated text been represented by their exact synonyms in meaning; thus, for instance, *food* is everywhere translated by *cha-fan*, i.e. 'tea and porridge'; again, when the tonic text contains a list of several names, the translation only names the first, adding the particle *den* = and others. These lacunæ may in many cases be filled up from the epitome of *Van guan dai*. In other cases the original proper names are replaced by synonyms more commonly used in China. Thus, the Kin race is everywhere called Niu-chin, whereas from other indications the tonic writer had Jurji or Jurjit. These cases, however, are very few.

The Mongol proper names were transliterated into Chinese characters by means of certain definite characters, conventional signs by which we can recover the original sounds not known in Chinese. Thus, the sounds of *r* and hard *g* had a special sign. Signs were used reading *err*, *lo*, *lu*, *li*, *lé*, *la* with the sign *shé* (tongue) added from the left. This indicates that these signs ought to be read *r*, *ro*, *ru*, etc. To express the sound *go* the sign *kho* was used; with a little sign *jün* (middle). For the sound *kha*, which is also absent in Chinese, the sign *kho* was used with the addition of a little sign *kou* (mouth). To show that the sign ought to be read as a separate consonant which the Chinese language does not allow of, a similar sign one-half the size of the sign in the text was added a little to one side. Examples of these index signs may be given; thus, *Bo_{le} chi gi dai mie_{err} gan* must be read *Bor ji gi dai mier gan*; *Anbakhai An ba gai*; *Ké_{lé} sé u sa_{vu} la_{he}*, *Kékseusabrakh*; but even with this method of transcription, which was adopted by the committee of Hung wu, we are not always certain that the real form of the original Mongol names has been preserved, since in the Peking copy of the Yuan chao pi shi, which was followed by Palladius, the transcription is not always uniform. From this account it will be seen how valuable the work before us is. Not only is it the earliest Mongol chronicle, but in all probability the

Mongol text which might without much difficulty be recovered from the tonic is the *fons et origo* of all other accounts of the beginnings of Mongolian history. To show its real value it will be interesting and important to quote Palladius' notice of what has hitherto been considered the main Chinese source for Mongol history, namely, the Imperial Annals known as the Yuan shi.

The Yuan shi, an immense work, consisting of 210 tsiuan, was compiled in less than a year after the Mongols were driven out of China by order of the first Ming Emperor. In consequence of this haste, and the incompleteness of the documents on which it was founded, it abounds in errors, omissions, and contradictions. The Chinese learned men have exposed many of these errors, and we are told Van khoi tsu formed a whole volume of the variations and mistakes of the Yuan shi.

The Yuan shi consists of two great divisions, the one containing the account of the Mongol rulers in due order, and the other, containing Biographies of eminent men. The story as told in each of these sources is not always reconcileable. The latter, as Tsian da sin has remarked, was composed largely from family legends and epitaphs, often rather panegyrics than to be accepted as literally true, like the funeral orations of the Roman orators delivered over the graves of the deceased. These biographies no doubt contain much valuable matter, as Dr. Bretschneider has so well proved, but they need the most careful sifting. Again, after the accession of the present dynasty, and during the reign of Kien lung, a so-called historical committee was appointed to correct the histories of the three dynasties Liau, Kin, and Yuan. This committee proceeded to apply an analysis to the various names, etc., found in the text, and to alter their forms so as to suit its notions of their etymology, and Chinese scholars consequently discard it, and prefer to use the Ming edition in its uncorrected and pristine form. Hyacinthe, who translated the annalistic portion of the Yuan shi relating to the first four Mongol Khans, and my gifted friend Prof. Douglas who translated the portion referring to Chinghiz Khan,

both have followed Kien lung's revision. It would be a monumental work if Professor Douglas could see his way to give us some more from this great history, and to take it from the earlier edition.

We cannot supplement the account in the Yuan shi to any extent from the Kin shi or history of the Kin dynasty, which was compiled during the Mongol supremacy, but contains very little additional matter. There are a few stories told in the annals of the Sung dynasty, but they are to be taken *cum grano salis*, since these stories reached Southern China through the medium of the very hostile Kin Tartars.

Let us now turn to another work which has also been edited by the Archimandrite Palladius, in this instance in the *Russian Oriental Record*, vol. i. 1872.

I take the account of this work from the learned editor's preface. Its Chinese title is Huan-yuan-shen-vu-tsin-jen-lu, meaning, Description of the personally conducted campaigns of the holy and warlike (Emperor), of the most august (dynasty of) Yuan. There is no evidence that the work, which was translated by Palladius from a MS., has ever been printed. The MSS. of it are so mutilated and disfigured, that we are told lovers of antiquities in China, notwithstanding their eagerness, were obliged to renounce the idea of being able to understand it. It is mentioned for the first time in the Yuan shi lei pien, a work composed in the reign of Kang hi, in which extracts from it are printed. A copy apparently in better condition was sent to the Imperial Library in the middle of the last century from the Southern parts of China.

Tsian da sin at the beginning of this century, called attention to this copy, and notwithstanding its numerous faults he placed it among the historical documents relating to the earlier Mongol period. More recently, when several Peking learned men have devoted themselves to the search for obscure and rare sources of Mongol history, this work was deemed worthy of careful study. Palladius says that Khe tsu tao took upon himself the ungrateful task of arranging it, clearing it of the mistakes of copyists, and explaining its

difficulties and lacunæ. One writer, Jan shi tsi, describes its composition as of such a nature that, while reading it, he seemed to be walking on hooks which had caught in his dress, and that he read it like an inscription on a monument which had been disfigured by moss. In ten sentences perhaps only two were connected. Khe tsu tao often fought for about ten days uninterruptedly over a single sign. He laboured at it for many years, and even then could not explain all of it, but he ascertained that several portions of it were missing. He intended to publish the work together with his notes, but unfortunately he was too poor, and was unable to collect sufficient money to print it. Palladius tells us that before he left Peking, he obtained from him an autograph copy of his revision of the work, of which the text he published was a translation. It is unknown when it was composed, and who was its author. The compilers of the catalogue of the Imperial Library in Peking suppose that it was written during the first years of the reign of Khubilai Khan, when legends and stories about Chinghiz Khan were eagerly sought for; but Tsian da sin justly remarks, adds Palladius, that the work must be referred to a later period, since Yessugai and Chinghiz Khan are mentioned in it by their full post-mortem appellations, which were given them many years after the time of Khubilai.

These facts I have abstracted from Palladius' very interesting preface. I would remark what escaped that very learned Chinese scholar, that the work we are describing has a singular and very close relationship to that of the Persian historiographer Rashid ud din. Sentence after sentence describes events in the same order and with the same phrases. So much so is this, that there can be no doubt either that one author had the other before him, or that both copied from a common original. If the argument of Tsian da sin as to the date of the work be reliable, it would appear that Rashid ud din's history may have been the original, and that one of the several copies he had made found its way to China. This view would be supported by the fact of the work being anonymous. If it be sustained, it would appear that the

Chinese author merely took from Rashid those portions of his text which he thought would interest his own readers. On the other hand, the meagreness of the information in many places where Rashid ud din is very full, makes it perhaps more probable the work was composed earlier than Tsian da sin supposed, and that among the various authorities used by the great historiographer of Gazan Khan, was some translation of the Huan-yuan-shen-vu-tsin-jen-lu. I must add that the prefaces of the two works here discussed from which I have gleaned the greater part of my facts were translated from the Russian for me by my gifted young friend S. Kinloch.

JOURNAL

OF

THE ROYAL ASIATIC SOCIETY.

ART. XV.—*The Rivers of the Vedas, and how the Aryans entered India.* By EDWARD THOMAS, F.R.S.

FOR the origination of this line of investigation we are mainly indebted to M. Vivien de Saint-Martin, who, in his "*Étude sur la géographie et les populations primitives du Nord-Ouest de l'Inde, d'après les Hymnes Védiques*,"¹ correctly defined one of the leading peculiarities of those chants, "c'est que les indications géographiques des hymnes du Vêda se rapportent à peu près exclusivement à des rivières."

Many reasons might be given to account for this peculiarity—the essentially pastoral life and erratic onward movement of the tribes themselves, which, under southern suns, caused them to be dependent upon proximate streams for the daily supply of their herds, etc. But the leading motive for the preservation of the river-names in the hymns seems to have been more directly connected with primitive River-worship, which in these instances frequently associated a Goddess with the flowing waters, so that it is often difficult to determine whether a given prayer is addressed to the Divinity or to the more material River itself, though these latter again were constantly appealed to individually as "Divine Waters."²

¹ "Mémoire couronné, en 1855, par l'Académie des inscriptions et belles-lettres." Paris, Imp. Impériale, 1860.

² H. H. Wilson. Translation of the Rig-Veda Sanhitâ. London, Allen and Co., vols. i., ii., iii., 1850-54-57; vol. iv. Trübner, 1866, edited by Professor E. B. Cowell. Professor Cowell in his preface conscientiously examines the relative value attaching to Prof. Wilson's translation, which he

M. de St.-Martin's treatment of the geographical question was masterly in the extreme¹—but he had to rely solely on M. Langlois' French translation of the Rig-Veda, a version which does not seem altogether to have commended itself to later interpreters.² The whole subject may therefore be re-examined with advantage, whether in consideration of the improved and more critical readings of the Vedic texts themselves now available, or in the light of the more extended knowledge of the traditions of the Aryan races at large, which has been acquired since the publication of M. de St.-Martin's original essay in 1860.

The second part of the present enquiry, on the downward movement of the Aryan races from their ancient seats towards the east of the Caspian, though of higher interest in the world's history, will have to be conducted in a far more fragmentary manner, than the comparatively compact story of the settlement of the Vedic Aryans in India.

A certain number of links are forthcoming, but, as yet, we are unable to connect them into a consecutive chain of

remarks "occupies a peculiar place. No doubt, as Vaidik studies progress, and more texts are published and studied, fresh light will be thrown on these records of the ancient world; and we may gradually obtain a deeper insight into their meaning than the mediæval Hindús could possess, just as a modern scholar may understand Homer more thoroughly than the Byzantine scholiasts. But the present translation will always retain an historical value, because it is based on the native commentary, and thus represents all that the Hindús have preserved of the long line of Vaidik tradition. *Sáyana* stands to the Veda as Eustathius to the Homeric poems; and Prof. Wilson's work enables the English reader to know what the Hindús themselves suppose the *Rig Veda* to mean. It is easy to depreciate native commentators, but it is not so easy to supersede them; and while I would by no means uphold *Sáyana* as infallible, I confess that, in the present early stage of Vaidik studies in Europe, it seems to me to be the safer course to follow native tradition rather than to accept too readily the arbitrary conjectures which continental scholars so often hazard," p. vi.

¹ It must not be supposed that this is my first recognition of the value of M. de St.-M.'s admirable study. So long ago as 1864, I find that I noticed it, with all due appreciation, in the (London) "Numismatic Chronicle" (vol. iv. n.s. p. 41), in an introductory Essay of mine on "Ancient Indian Weights"—an article which was republished *in extenso* in the Journal of the Asiatic Society of Bengal, in their vol. xxxiii. (1864) p. 251. Subsequently, in editing the new International "Numismata Orientalia"—"Ancient Indian Weights" (Trübner, London, 1874), I had an opportunity of again examining M. de St.-M.'s general conclusions, and adding some confirmatory evidence as to the ethnic obliteration of the Vedic Aryans on the banks of the Saraswatí.

² Wilson, Rig-Veda, vol. i. p. vi; Muir's "Original Sanskrit Texts," London, Trübner, vol. ii. p. 346; Weber, Hist. of Indian Literature, London, 1878, p. 43; Lassen, Indian Antiquities, vol. i. pp. 643-4.

Chinese author merely took from Rashid those portions of his text which he thought would interest his own readers. On the other hand, the meagreness of the information in many places where Rashid ud din is very full, makes it perhaps more probable the work was composed earlier than Tsian da sin supposed, and that among the various authorities used by the great historiographer of Gazan Khan, was some translation of the Huan-yuan-shen-vu-tsin-jen-lu. I must add that the prefaces of the two works here discussed from which I have gleaned the greater part of my facts were translated from the Russian for me by my gifted young friend S. Kinloch.

evidence—for whose completion, indeed, we must await far more ample materials; but there are some detached data indicating, in general terms, that the route of the Aryans led from the Oxus, by way of the open passes of the line of Herát and the fertile valleys of Arachosia, from which the Vedic tribes seem to have been forced by the pressure downwards of succeeding Iranian branches of the family—upwards into the narrow gorges of the Kábul valley, and more easily through the Kurrum and Gomál passes into India.

The most comprehensive geographical chapter in the entire Rig-Veda is reproduced *in extenso* below. It places before us, simultaneously, the reminiscences, seemingly recent, of the leading streams of the Kábul valley and the more direct Indian approaches by the Kurrum and Gomál. It indicates entire oblivion of any earlier habitat, and makes no reference to the successive waves or ruling motives which carried these pastoral tribes on to their ultimate destination on the banks of the Saraswatí, where they effectually changed their nature, submitted to the influence of prior civilizations, accepted the aid of amanuenses for their unwritten hymns, and finally merged their still vague faith into a compromise with Brahmanism.

RIG-VEDA, X. 75.

“1. Waters, let the poet declare your transcendent greatness in the abode of the worshipper. Each set of seven [streams] has followed a threefold course. The Sindhu surpasses the other rivers in impetuosity.

“2. Varuṇa hollowed out the channels of thy course, O Sindhu, when thou didst rush to thy contests. Thou flowest from [the heights of] the earth, over a downward slope, when thou leadest the van of these streams.

“4. To thee, O Sindhu, the [other streams] rush. . . . Like a—
 ing
 deep
 arrior king [in the centre of his army] thou leadest the two
 of thy host when thou strugglest forward to the van of these
 ents.

"5. Receive favourably this my hymn, O Gangá, Yamuná, Sarasvatí, Šutudri, Parushni; hear, O Marudvridhá, with the Asikní, and Vitastá, and thou, Arjikiyá with the Sushomá.

"6. Unite first in thy course with the Trishtámá, the Sasartú, the Rasá and the Švetí; thou [meetest] the Gomatí and the Krumu, with the Kubhá, and the Mehatnú, and with them are borne onward as on the same car.

"7. Flashing, sparkling, gleaming, in her majesty, the unconquerable, the most abundant of streams, beautiful as a handsome spotted mare, the Sindhu rolls her waters over the levels.

"8. Mistress of a chariot, with noble horses, . . . she traverses [a land] yielding sweetness.

"9. The Sindhu has yoked her pleasant chariot drawn by horses. By it may she grant us vigour in this struggle . . ."¹

I have arranged the series of rivers, mentioned in this chapter, in a tabular form, both for facility of general reference and for the sake of additional illustrative remarks.

Table II. embraces the rivers mentioned in other detached hymns of the Veda.

¹ Muir's Sanskrit Texts, vol. v. p. 344 :—

I annex M. Langlois' original French translation for purposes of comparison.

"1. Les sept torrents coulent chacun dans trois mondes différents. De ces rivières, le *Sindhou* est la première par sa force.

"2. Ô *Sindhou* ! Varouna ouvre lui-même ta route. . . . Tu descends des hauteurs de la terre, et tu règues sur ces mondes.

"4. Ô *Sindhou* ! [les autres rivières] viennent à toi et [t'apporteront leur tribut], comme les vaches apportent leur lait à leur nourrisson. Quand tu marches à la tête de ces ondes impétueuses, tu ressembles à un roi belliqueux qui étend ses deux ailes de bataille.

"5. Ô *Gangá*, *Yamouná*, *Sarasvatí*, *Coutoudri*, avec la *Parouchni*, écoutez mon hymne. Ô *Maroudvridhá*, avec l'*Asikní* et la *Vitasthá*; Ô *Arđjikiyá*, avec la *Souchomá*, entendez-nous !

"6. Ô *Sindhou* ! tu mêles d'abord tes eaux rapides à celles de la *Trichtámá*, de la *Rasá*, de la *Švetí*, de la *Koubhá*; tu entraînes sur le même char que toi la *Gomatí* et la *Kroumou*.

"7. Brillant, impétueux, invisible, le *Sindhou* développe ses ondes avec majesté."—*Rig-Véda*, traduit par M. Langlois (1848-51), vol. iv. p. 305.

of this enquiry the geographical
has seem to reduce themselves into

TABLE I.—THE RIVER be taken in the reverse order of the

1. Gangá ... Ganges ...	and vanishing point of the essentially
2. Yamuná ... Jumna ...	inks of the Indian Saraswatí.
3. Sarasvatí ... Sirsuti ...	of their progress through the Punjáb
4. Šutudri ... Sutlaj ...	ivid reminiscences of the rivers of the
5. Parushni ... Ravi ...	casual references to more southerly
6. Marudvridhá ...	Dr.-Martin rightly divined that the cele-
7. Asikni ... Chenáb ...	ymn, R. V. x. 75, quoted above, must
8. Vitastá ... Behat ...	r-technically seen (revealed), after the
9. Arjikiyá ... Beas ...	ans on the banks of the Saraswatí. The
	ry. V. iii. 23, wherein the Dīśhadvatí
	ociated, curiously enough, with the
	tas, Devaśrávas and Devaváta.” ¹ The
10. Sushomá ... Suhán ...	Σάωρος ... or Vedic bards with the more
	perhaps more distinctly
11. Trīṣṭamá ... Tohi ...	Σούταπος ... Arrian 27 of the rivers
	joins the Nile II.), ² both of
	Long. 74° 41.
12. Susartá ... Khonar ...	Εἰασπα ... Wilson, Ar. Ant., p. the (banks of
	ii. 345.
13. Rasá ... Panjkora ...	Γαροίας ...
14. Śvetí ... Swad ...	Σόαστος ... Variant “Suvásta,” No. 21.
15. Gomatí ... Gomal ...	Πτάρεμος ... Goolári Pass, the great middle-
	route from Hindustán to Kho-
	rasán (Burnes). See also R.V.,
	viii. 24, 30.
16. Krumu ... Kurru ...	Σάπαρνος ... Arrian India, iv. 12.
17. Kubhá ... Kophen ...	Κόφης ...
18. Mahatmá ... Choes ...	Μαλάμαντος ... C. Müller, Geog. Græci Min. 313.
	(Xóης)
	Gen. Cunningham once held that
	the Bára river represented the
	old Malamantus. — Geography
	of India, pls. v., vi., p. 104.
19. Sindhu ... Indus ...	Σινθός ...

¹ These references are taken from Mr. Muir's Sanskrit Texts, so industriously collected by him in his vol. ii.

² Professor Lassen affirmed that these three (9, 10, 11) were not rivers at all. —Muir, vol. i. p. 348. He admits, however, that *trīṣṭa* means “harshly sounding,” an epithet peculiarly applicable to No. 11, which is described as running deep and red, and full of quicksands.—Cunningham, J.A.S.B. 1841, p. 112.

"5. Receive favourably this my h
Sarasvatī, Śutudrī, Paruṣṇī; hear, (Sarasvatī, Śutudrī, Paruṣṇī; hear, (Asiknī, and Vitastā, and thou, Arjikiyā R.V., v. 53, 9. St.-Martin con-
"6. Unite first in thy course with th sides this to be a synonym of the Rasā and the Śvetī; thou [meete, No. 11.¹
Krumu, with the Kubhā, and the Meh: V., viii. 19, 37; St.-Martin, p. 53.
borne onward as on the same car. R.V., Wilson's translation, i. 268,² i. 7-9; Langlois, i. p. 200; St.-Martin, p. 53, declines to risk any identification of these four rivers, and Mr. Muir seems to reject them altogether from his list.

"7. Flashing, sparkling, gleaming, i querable, the most abundant of stream spotted mare, the Sindhu rolls her water
"8. Mistress of a hariat, with noble [a land] yielding sweetness. V., iv. 30, 18; v. 53-9, and x. 64-9.

"9. The Sindhu has yoked her pleasar- V., iii. 23-4; Wilson, iii. 25; Manu, ii. 17.
By it may she grant us vigour in this str V., iii. 23-4; V.P., ii. 148; Cunningham, Arch. Report, 1879, p. 88.

I have arranged the series of riv V., vi. 27, 5, 6; viii. 85, 13.
chapter, in a tabular form, both
reference and for the sake of add "Yayāti" was the common an-
marks. cestor of the Kurus and Pāndus.

Table II. embraces the rivers in type, Dr. Rost has been
hymns of the Veda. some never references to rivers to be

veda, vol. iii. (Prague, 1878), pp. 200-202,

¹ Muir's Sanskrit Textster on these rivers. He takes Âpayâ (Âpagâ) I annex M. Lan the principal passage on the rivers is x. 75. He
"1. Les revati and Silamâvatī (ib. verse 8). He considers Marud-rivières, as probably Paruṣṇī and Asiknī combined. He identifies the
Kubhā with the Kabûl-rud. He also mentions Vibâlī (iv. 30, 12)
and Varanâvatī, the latter occurs only in the Atharva-veda. He
identifies the eastern Sarasvatī with the Saryanâvân (x. 35, 2).

¹ Anitabhā for *Anityabha* "un courant d'eau temporaire."—Lassen. Prof. M. Williams makes the word *Anita-bhā*, "not endowed with splendour." The St. Petersburg Dictionary merely gives अनितभा "eines flusses." R.V. v. 53, 9.

² "(The Asura), knowing the wealth of others, carries it off of himself; present in the water, he carries off, of himself, the foam; the two wives of Kuyava bathe with the water: may they be drowned in the depths of the Siphā river."

"The abiding place of the vagrant (Kuyava) was concealed (in the midst) of the water: the hero increases with the waters formerly (carried off), and is renowned (throughout the world): the Anjastī, Kulīstī and Vira-patnī rivers, pleasing him with their substance, sustain him with their waters."

Wilford notices "The *Siprā*, *Siprā*, Cshprā, also called the Avanti river," which falls into the Chambal (As. Res. xiv. 408), and the Vishnu-Purāṇa refers to the same river and to the Avanti, near Oojein (Hall's Edit. ii. 131 and 156). But the Vedic Aryans can hardly have got so far south at the period the passage seems to belong to.

For the convenience of this enquiry the geographical contributions of the Vedas seem to reduce themselves into three groups, which may be taken in the reverse order of the localities reached.

A.—The final home and vanishing point of the essentially Vedic Aryans on the banks of the Indian Saraswatí.

B.—The stray notices of their progress through the Punjáb preserved in their texts.

C.—Their seemingly vivid reminiscences of the rivers of the Kábul basin, and their casual references to more southerly passes into India.

Section A.—M. de St.-Martin rightly divined that the celebrated Geographical hymn, R. V. x. 75, quoted above, must have been composed, or technically seen (revealed), after the arrival of the Vedic Aryans on the banks of the Saraswatí. The same may be said of R. V. iii. 23, where in the *Drishadvatí* is mentioned, and associated, curiously enough, with the names of “the two Bháratas, Devaśrávas and Devaváta.”¹ The intimate acquaintance of the later Vedic bards with the more immediate localities of the region is perhaps more distinctly shown by the citation in R. V. vi. 27 of the rivers Ápayá and Anṣumatí (Nos. 28, 29, of Table II.),² both of

¹ Muir, S. Texts, vol. i. p. 345, “Shine, O Agni, brilliantly on the (banks of the) Drishadvatí, on (a site) auspicious for men, on (the banks of) the Ápayá, and of the Sarasvatí;” Wilson, vol. iii. p. 25.

² The Ápayá was approximately placed by M. de St.-Martin in 1860 (p. 59). I obtain the identification of the Ansumati from General Cunningham's later researches on the spot, embodied in his Archaeological Report for 1878-79. He does not seem to have been cognisant of or to have noticed the passages from the Vedas in the above enumeration bearing upon the localities around Kurukshetra. His observations are to the following effect: “The region of Kurukshetra is said to have been watered either by 7 or by 9 rivers. The names of the nine are—1. Saraswatí; 2. Vaitaríní; 3. Apagá, or Aughvati; 4. Mandákiní Ganga; 5. Madhusrava; 6. Ansumati; 7. Kausiki; 8. Drishtavati; and 9. Hiranyavati or Drishtavati. . . . The Apagá or Augvati is a branch of the Chitang which separates from the main stream a few miles to the west of Ládwa, and flows past Pulwal to Pabnáwa, where it is lost in the sands. Its whole length is about 25 miles. The Kausiki is a branch of the Rákshi. The others I have not been able to identify. But there are several important streams at the present day, such as the Márkanda, the Nakti, and Chitang or Chatang, of which the ancient names are quite unknown. The Sarsuti and its branches have also been so interlaced and inosculated with one another by Feroz Shah to fill his canals, that the people have completely confused their names, so that there are now no less than three different Sarsutis. There is, I believe, some mistake about the number of 9 rivers, as the Hindus invariably assign 7 branches to all their rivers. Such are the *Sapta Sindhu*, the *Sapta Gandakí*, and the *Sapta*

which clearly belong to the Kurukshetra basin. The associated Hariyúpiyá or Yavyávati (Nos. 30, 31) seems to pertain to the same group.

A most vital question, in the course of these enquiries, is, as to how and why the Vedic Aryans came to recognise as sacred precincts, a corner of the world so far severed from their ancient traditions as their ultimate refuge on the banks of the Saraswatí. A site which, in its physical conformation, was likely to have presented so few attractions to a pastoral people, or to the eye of a river-worshipper so shadowy an impression, after the grand waters the intruding Aryans had left behind them.¹

Something may have been due, in this direction, to an unacknowledged sentiment of a revival of a bygone Saraswatí on the banks of the Helmand, to which reference will be made hereafter.

Their own allusions in the Sanskrit texts, to the Saraswatí both as Goddess and River are frequent,² and often a little involved—but as regards the River itself, it is spoken of in one passage as “chief and purest of rivers, flowing from the mountains to the ocean;”³ and in another, “such are thy great bounties, SARASWATÍ. 2. With impetuous and mighty

Kausiki, etc.—and there is a place of pilgrimage in Kurukshetra still called *Sapta Saraswatí*. I suspect also that No. 4 is a mistake, as it is the name of one of the holiest pools in the bed of the Saraswatí at Prithudaka.—The *Vaitarani* may (also) only be another term for Drishadwatí or *Rakshi*.” Vol. xiv. p. 88. 1

¹ The Gaggar, Saraswatí, and their tributaries contain but little water except in the rainy season. Their sources being in the outer and lower Himálayan range, they are fed by rain only, and not by the melting snows also, as are all the large rivers of Northern India. The collecting ground of these streams, moreover, is, and always must have been, very limited, as it lies between the Satlej and Jamna valleys. There is nothing in history to show that these rivers ever contained much more water than they do now. Some diminution in their volume may have taken place during the lapse of ages, from changes in the lower Himálayan range, as well as from the destruction of forests and increase of irrigation. There is no doubt also a tendency to the obliteration of the lower portion of their course; partly by the drift of sand and dust from the desert, and partly by the deposit of silt brought down by the streams themselves, owing to the absence of the great river by which it would have been carried off to the sea. All these influences, however, have, as we find from history, produced but little effect during a very long period. . . . The Gaggar must originally have been of much less importance than it is at present, for the Saraswatí, which now falls into it above Munak, formerly flowed much further south, and joined the old channel just mentioned below the famous fortress of Sarsuti (now called Sirsa), which was built on its banks in the sixth century. . . . Calcutta Review, No. cxvii. vol. 59 (1874), p. 1, with a map, by Surgeon-Major Oldham.

² Wilson, i. 10, 33, 216, 227.

³ Wilson, iv. 189.

waves she breaks down the precipices of the mountains, like a digger for the lotus fibres . . . SARASWATÍ the underminer of both her banks.”¹

This latter passage may, perchance, contain an allusion to the formation of the Lake of Kurukshetra itself, but, on the other hand, the local epics refer to existing still waters, in the time of the wars of the Mahábhárata, at a period we may now perhaps consider closely coeval with the domestication of the Vedic Aryans.

The coincident references in the Mahábhárata speak of the Saraswatí as merely a boundary stream, but elevate Kurukshetra to the recognised high place—in the terms, “South from Saraswatí, and north from Drishadvatí, they who dwell in Kurukshetra live in paradise.”² In another passage it is said, “The tract between Ratnuka, Aratnuka, Rámáhrada, and Bhachaknuka, is called Kurukshetra, *Samantapanchaka*, and the northern *Vedi* of *Piti-maha* or *Brahmá*” (*Brahmá-vartta*).³ In Manu’s Laws, again, the Saraswatí appears as a mere geographical line, defining on one side, “that region made by the gods, which is between the Saraswatí and Drishadvatí rivers (which) is called *Brahmávartta*.”⁴ General Cunningham further quotes, from the Vámana Puráṇa, a passage to the effect, that “They were making

¹ Wilson, iii. 504. Professor Wilson, in his preface to vol. iii. p. xviii, dated 30th April, 1857, gives the following résumé of the contents of this volume in regard to the various notices of rivers:—“So far, therefore, the allusions to the social condition of the Hindús are in harmony with those that have been previously noticed; and the same may be said of the references made to the tracts occurring by them, which were in the north-west and west of India, from the Punjab known, mouths of the Indus, their outlet to the ocean: we have the *Yamuná* mentioned once, the *Ganges* once: the *Saraswatí* is often named in both her characters, as a goddess and a river, and the *Drishadvatí* is in one place associated [Iroy], 100 in *Manu*, along with another river not met with elsewhere, the *Vipáśa* and *Satudrí* or *Beyah* and *Satlaj*, are interlocutors in a *Súood* near me, *Rishi Vigrahnitra*, in which he entreats them to allow him to for his attendants and waggons, being bound to the north-west, assion in front of collect the *Soma* plant. Other rivers are named, as the *Rasá*, *Anidown* the high-*Purushni*, and the *Hariyupiyá* or *Yavyavatí*, the positions of which known, but which were probably in the west, and were feeders of tand 8 harnessed the eastern bank of the *Hariyupiyá* dwelt a people called *Vrichivats*, *Pajras*,” etc.—who were subjugated with the aid of *INDRA*, by the *Rajas Abi*.

² General Cunningham, Arch. Report, vol. ii. pp. 214, 215, 186 words are, “The

³ *Ibid.* See also Wheeler’s Mahábhárata, p. 277.)28 hymns mean

⁴ The Institutes of Manu, London, 1825, by G. C. Haughton, c.

the great sacrifice of *Satrantā* in the wide region of Kurukshetra, on the banks of the Drishadvatī, esteemed holy on account of its virtues,"¹ and it may be added that the field of Kurukshetra retained its eminence as holy ground till the time of Huen Tshang in 648 A.D., who mentions it as still designated as "la terre du Bonheur."²

We have no present means of deciding how long the Vedic Aryans took to compass the distance between the Indus and the Sarasvatī—the transit must necessarily have been a slow one, if they had to herd cattle and occasionally to grow barley by the way.³

But in addition to this, we have to ask what changes in their ideas, manners and customs were likely to have been effected from their first contact with the hostile aborigines already in possession of the soil, and the gradual assimilation and submission to local influences brought about during a delayed progress from one point to the other.

My impression is, that on their first invasion the Aryans were far more powerful, both in numbers and material force, than they were when they found themselves within reach of the Jumna. In fighting their way onwards against the Dasyus, they must have suffered frequent losses; and new supplies of tribal recruits, from their old homes, were barred by the inimical Iranians, who after them seem to have occupied the main routes from the north.

The arid plains of the Punjāb can scarcely have been ^{they} ^{rivers} ^{and} ^{valleys} ^{much} ^{order's} ^{taken} ^{as} ^{doubt} ^{partly} ^{silt} ^{river} ^{by} ^{which} ^{however} ^{have} ^{not} ^{vol.} ^{ii.} ^{p.} ²¹⁴; and Arch. Report, 1879, vol. xiv. p. 87. long period. . . ulien, Paris, vol. ii. p. 212; "Tout autour de la capitale, il y a un than it is at p cent li que les habitants du pays ont appelé la terre du Bonheur." formerly flowed. V., vol. i. pp. xli and lvii; also vol. iii. p. xi; Numismata below the famous Indian Weights," p. 15. banks in the sixteenth century describes the lake of Kurukshetra as an oblong sheet with a map, by feet in length from east to west, and 1,900 feet in breadth. The ² Wilson, i. 36, of Kurukshetra, also called *Dharmakshetra*, or "the holy

¹ Huen Tshang, *Travels*, vol. ii. p. 214; and Arch. Report, 1879, vol. xiv. p. 87. long period. . . ulien, Paris, vol. ii. p. 212; "Tout autour de la capitale, il y a un than it is at p cent li que les habitants du pays ont appelé la terre du Bonheur." formerly flowed. V., vol. i. pp. xli and lvii; also vol. iii. p. xi; Numismata below the famous Indian Weights," p. 15.

² Wilson, i. 36, of Kurukshetra, also called *Dharmakshetra*, or "the holy

But, if the incoming Aryans were weak in numbers, they were strong in traditions of the higher flights of nature worship, and possibly more advanced in religious ceremonials than had as yet been developed in the simple worship of the local Priests. Their Rishis,¹ who, for their own purposes, had urged their kings on to new enterprises, must soon have discovered that there was some limit to the course of conquest. Seemingly, they were able to adapt themselves to the new situation, and make capital out of their legendary lore of quaint old hymns, which, as Prof. Goldstücker remarked, furnished but a small stock-in-trade from which to make a new religion.²

But if these leaders of rites chanced to find receptive disciples and were prepared to make concessions to home credulities, there were before them ample materials out of which to originate Aryan Brahmanism, and India at large has since paid unwitting homage to the intellectual training, which created so satisfying a faith as that so long and consistently upheld in the hands of their successors.

land," now "comprises within its circuit of 160 miles, no less than 360 holy sites, most of which are connected with the names of the heroes of the Mahābhārata. Many of these are no doubt genuine ancient places, as attested by their high mounds and brick ruins. But the greater number appear to have been the inventions of modern days." . . . The whole region is divided into seven *bans* or forests." Gen. Cunningham then proceeds to give a full list of the *tīraths* or places of pilgrimage, etc., vol. xiv. Arch. Reports, 1878-79, p. 97, and vol. ii. pp. 213, *et seq.*

¹ I may cite from the Vedas a typical instance of the arrogance of the Rishis in their early days on the Indus:

"1. I repeat with a (willing) mind the unreluctant praises of BHÁVIA, dwelling on the banks of the Sindhu: a prince of unequalled (might), desirous of renown, who has enabled me to celebrate a thousand sacrifices.

"2. From which generous prince, soliciting (my acceptance), I, KAKSHÍVAT, unhesitatingly accepted 100 *nishkas* [coin or weight of 560 grains Troy], 100 vigorous steeds, and 100 bulls. . . .

"3. Ten chariots drawn by bay steeds, and carrying my wives, stood near me, given me by SWANAYA; and 1060 cows followed. . . .

"4. Forty bay horses, (harnessed) to the chariots, led the procession in front of 1000 (followers). The *Pajras*, the kinsmen of KAKSHÍVAT, rub down the high-spirited steeds, decorated with golden trappings. . . .

"5. I have accepted a prior grant, (kinsmen), for you: 3 and 8 harnessed chariots and cattle of incalculable value: may the kindred *Pajras*," etc.—Wilson, R.V. ii. 17.

² Westminster Review, 1864, p. 154, Article "The Inspired Writings of Hinduism," reprinted in his Literary Remains, vol. ii. p. 50. His words are, "The Hindu priesthood, however, has managed to demonstrate that 1028 hymns mean in reality a very ponderous mass of divinely revealed works."

But here, again, we have to enquire, how much of this new religion was created by the contrasted incoming and indigeneous races, and which of the two had the largest share in developing the Brahmanical religion of India. Perhaps no more striking proof of the superior mental calibre of the latter could be cited than the fact, admitted on all sides, that the Vedic scriptures were not coördinated by any Aryan Rishi, but were first "arranged," and virtually rescued from the possible oblivion incident to their state of unwritten songs, by the *Veda-vyāsa* Kṛishṇa (the black), *Dwaipayāna*, born on an island in the Jumna,¹ to whom was confided the task of superintending the first recension of the scattered hymns.² It is true that this individual is represented to have received inspiration from his putative father, the *Rishi* Parā-sara; but the *Kānina*, "the bastard," and the low estate of the mother, would seem to show, all the more, the force of his individual genius, and equally establish the intellectual advancement already achieved by the mixed races who then dwelt in the land.

Section B.—The next group of rivers we have to consider comprehend the leading streams that watered the region of the Punjāb proper.

¹ Max Müller, *Ancient Sanskrit Literature*, 1859, p. 479; Colebrooke's *Essays* (Cowell's Edit.), vol. i. pp. 9, 20; *Asiatic Researches*, (1805) vol. viii. p. 369; Goldstücker's *Literary Remains*, vol. i. p. 115; Wilson, "The Religion of the Hindus" (London Edit., 1862), vol. ii. p. 47; Vishnu Purāna (Hall's Edit.), vol. iii. p. 33. "Muni Kṛishṇa Dwaipayāna" is here spoken of as "the 28th *Vyāsa*," the first of the list being Swayambhū (Brahma) himself. See also Wilson's Preface, pp. xvii, xxxiii; Wheeler, *Mahā Bhārata* (London, 1867), p. 59.

² Prof. Wilson in his preface to vol. i. *Rig-Veda*, p. xx, observes in regard to this arranger: "At last, however, there arrived a period when the antiquity of the hymns, the obscurity of their style, the peculiarities of the language, and the number to which they had multiplied, with the corresponding difficulties of recollecting and teaching them, and possibly also the perception that some venerable authority, on which their growing claims to superior sanctity was wanting, suggested to the progressive advancement of the literature of the Brahmins, the expediency of rescuing the dispersed and obsolete *Sūktas* from the risk of oblivion, and moulding them into some consistent and permanent shape. The accomplishment of this object is traditionally ascribed to the son of Parāśara Rishi, KRISHṆA DWAIPĀ-YANA, thence surnamed VYĀSA, the arranger, a person of rather questionable chronology and existence, who is supposed to have flourished at the time of the great war between the rival families of Kuru and Pāndu, to the latter of which he was attached. The account that is really given of his proceedings shows that his special province was that of superintendence, possibly under the patronage of Rājā Yudhishthira, after his triumph over the Kurus, and that various other learned persons, already familiar with the hymns of the respective *Vedas*, were employed to prepare each several *Sanhita* or collection."

Their names and the sites of their debouchures from the Himalaya are now well ascertained. But the erratic changes of their beds since the Aryan period are often difficult to trace or account for. The geological formation of the country, in the first instance, would necessarily have lent itself to constant breaks in the continuity of the alluvial streams.

That eminent geologist, the late Dr. Falconer, interested himself keenly in these questions, and his mature views, practical and scientific, were embodied in his posthumous works, in the following terms:—

“The dark shading (in the accompanying map) represents the plains of India, forming the valley systems of the Ganges and Indus drainage, which were formerly narrow ocean straits. These straits were the recipients of the silt and alluvium washed out of the Himalayas, and were at length elevated above the sea, so as to form the existing continent. . . . After the long establishment of the Sewálik fauna (over the continent) a great upheavement took place along the line of the Himalayas, elevating a narrow belt of the plains into the Sewálik Hills, and adding many thousand feet to the height of the Himalayas.”¹

Strabo has preserved for us a curious record of one of the later upheavements of the soil under similar conditions, which must have taken place previous to the invasion of Alexander the Great. He says:

“Aristobulus, when comparing the circumstances in which this country (India) resembles, and those in which it differs from, Egypt and Ethiopia, . . . incidentally goes on to remark,—‘that when he was despatched upon some business into the country, he saw a tract of land deserted, which contained more than 1000 cities, with their dependent villages; the Indus, having left its proper channel, was diverted into another, on the left hand, much deeper, and precipitated itself into it like a cataract, so that it no longer watered the country by the (usual) inundation on the right hand, from which it had receded, and this was elevated above

¹ Memoirs of Hugh Falconer, collected by Dr. Charles Murchison, London, 1868, p. 6, vol. i. plate ii. See also Elliot's *Historians*, vol. i. p. 45, note 3; and J.A.S.B. vol. cxxxviii. p. 140.

the level, not only of the new channel of the river, but above that of the (new) inundation.¹

In addition to the earlier native traditions collected by Col. Tod,² more modern investigations by our own engineers fully explain the local effect of some of these geological changes. The following observations are derived from the pen of an anonymous contributor to the *Calcutta Review*, controverting (elsewhere) the conclusions arrived at by Dr. Oldham, whose notice on the Indian Saraswatí has been quoted above (p. 364):—

Article, "The lost river of the Indian desert"—a comment by Nearchus. . . . With regard to "the lands of Nair and Kádál, the Ramala of the Arab Geographers. This tract is now known as the Banger, or highland, intermediate between the desert proper and the existing river valleys. There is no doubt of the local traditions, which ascribe the desolation of this once flourishing country to the drying-up of the stream by which it was fertilised." The depression called the Hakrá is traced along the eastern limit of the Banger. It is a broad, rather shallow channel, running in even lines, which bifurcates at latitude 22' 27", longitude 72' 15". One limb proceeds westward, the other is continued southward. The Hakrá bed is not at all like the eroded valley of a great erratic river, such as the Satlaj. . . . The Bháwál-púr Irrigation Survey of 1869, determined its level to be 30 feet higher than the bed of Satlaj . . . and there is no

¹ Strabo xv. i. 19 (Falconer, iii. 84).

² "Amidst these ruins of the Johyas, the name of *Sekandar Roomi* (Alexander the Great) has fixed itself, and the desert retains the tradition that the ruin called *Rung-mahl*, 'the painted palace,' near Dandoosir (25 miles west of Bhunair), was the capital of a prince of this region punished by a visitation of the Macedonian conqueror. History affords no evidence of Alexander's passage of the Garah, though the scene of his severest conflict was in that nook of the Punjáb not remote from the lands of the Johyas. . . . The same traditions assert that these regions were not always either arid or desolate, and the living chronicle alluded to in the note (by an old inhabitant of Dandoosir) repeated the stanza elsewhere given, which dated its deterioration from the drying-up of the *Hakra* (*Sankra*) river, which came from the Punjáb, and flowing through the heart of this country, emptied itself into the Indus between Rory Bekher and Ootch."—Col. Tod's *Rajastán*, vol. ii. p. 187.

"According to tradition, this stream took a westerly direction, by Phoolra, where it is yet to be traced, and fell into the Indus below Ootch. The couplet recording its absorption by the sands of *Nair* has already been given."—*ibid.* p. 214.

Section C.—The concluding group of rivers—in the reverse order of Aryan transit—mentioned in the texts of the Vedas, comprise a reference to the Gomāl and the Kurrum, representing in each case the valley drainage of their several passes *downwards* into Hindustān. The other streams enumerated in the list bring us into contact with the headwaters of the Kābul valley, and singularly enough follow, in other terms, name for name, those given in the versions of the Greek chroniclers of Alexander's expedition.

The former may demand a passing notice in regard to their facilities of transit and existing capabilities of commercial traffic. The latter have, perhaps, been sufficiently adverted to in the details of Table I., but there is still much to be done in the way of exact criticism of local identifications, which do not so immediately concern the present enquiry.

The Gomāl or *Gūlairī* pass may be traced on the map from Ghaznī, south-westward, to Dehra Ismāil Khān on the Indus; for about three-quarters of this distance it runs through the channel of the Gomāl river, "by broken and rugged roads or rather water-courses, . . . through the wild and mountainous country of the Muzārīs."¹ It is "a pass of great importance, being the middle route from Hindustān to Afghānistān, as the Khyber is the northern, and the Bolan the southern. Immense caravans, consisting principally of Lohani Afghāns, every spring traverse it westward from the Indus and the adjacent countries."

The Emperor Bábar, during one of his frequent local expeditions, seems to have felt himself rather entangled in it; but he adds, "As none of us had ever been this road, we were perfectly ignorant of its length or shortness. It had been adopted on mere idle surmise."²

In 1834 Dr. M. Honigberger went up this pass to Ghaznī,³ and outlined a map of his route, one of the peculiarities of

¹ Burnes, *Trade of the Derajāt*, p. 98. These and other details on the subject have been carefully collected and summarized in the too little-known "Gazetteer of the Countries Adjacent to India," compiled under the direction of the late Edward Thornton, of the India Office, Allen & Co. (1844).

² *Memoirs of Bábar*, Erskine, London, Longmans, 1826, p. 162.

³ *Journal of a Route from Dera Ghāzi Khān, through the Veziri country to Kābul*, Journ. As. Soc. Bengal, 1834, vol. iii. p. 175, with a Map, Plate xiv.

which is the summary way in which he refers to the open communication to the westward with Kandahar.

The celebrated Kurrum (كُرْم Kuram) pass, concerning which we have later military experience, runs nearly due west from about Banu to Ghazní. The river, from which it takes its name, rises on the eastern slope of the Sulimán mountains, and after a course 115 miles S.E., falls into the Indus in Lat. $32^{\circ} 37'$, Long. $71^{\circ} 25'$.

Its real importance as a highway to India dates from the elevation of Ghazní into the main stronghold of the dynasty whose title was derived from their new capital. Its strategic value, as a direct line of entry into India, then became manifest; and the great Mahmúd, during the course of his sixteen expeditions against the Infidels,¹ constantly alludes to it as "by way of Kermán,"² a rather misleading expression, which caused our early translators, theoretically, to take his armies a good deal out of their road, or through the mazes of the Persian province of that name.

So vital and important was the clear passage of this pass found to be, in later days, that the most trusted lieutenant of each succeeding Sultán was appointed to the command of its central or dominating fort.³

An exemplification of the measure of power, thus delegated, was unexpectedly discovered by Kutb-ud-dín Ibek, when he felt himself strong enough to proceed by this pass from India to the temporary conquest of Ghazní, but found his return barred, after 40 days' occupancy of the historical capital,⁴ by other interests, and had to beat a retreat to his own eastern dominions by way of the alternate *Sang-i-Surákh*.⁵

The Vedic Aryans, who recorded the names of these rivers

¹ Elliot's *Historians*, vol. ii. p. 434.

² Briggs's *Ferishta*.

³ Pathán *Kings of Delhi*, London, 1871, pp. 26, note 1, 36, etc.; Elliot's *Historians*, vol. ii. p. 221. Lumsden's Map places the Fort of Kurrum in $70^{\circ} 10' - 33^{\circ} 49'$.

⁴ *Ibid.* p. 33; Tabakát-i-Násiri, in Elliot, vol. ii. p. 301.

⁵ Babar's *Memoirs*, p. 161: "On the next morning we marched forward, and halted at no great distance, among the villages of the Desht (Damán). Our next march was to the banks of the river Gomál. From Desht there are two roads that lead to the West. One of them is the road of *Sang-surákh*, which reaches Fermul by way of Búrek. The other is along the banks of the Gomál, which conducts also to Fermul, but without passing Búrek. The road along the Gomál is generally preferred."

in such prominent terms, clearly used the corresponding passes in a practical sense, and perhaps even dwelt, from time to time, during some of their tribal migrations, amid the surrounding valleys.

This item of inductive evidence, indeed, has a very instructive bearing on the determination of the relative routes by which the Vedic Aryans entered India.

No doubt many sections of the tribes found their way gradually into India through the passes to the westward of Pesháwar, and afterwards clung to the Sub-Himalayas, even to a temporary hold upon Jamu (No. 11, Table I.); but the larger and more powerful divisions seem to have followed the comparatively open roads, so that they impinged upon two separate lines, the northern or Kurrum, tending more directly towards Pind Dadun Khán and Vazírábád; and the southern or Gomál route, leading due east in the direction of Láhore. Hence, we find their hymns speaking of the *Maruteridhá*, or the river below the confluence of the Chenáb and the Behat (Nos. 7 and 8 of Table I.), as well as describing in some detail the united streams of the Sutlaj and Beas (Nos. 4 and 9).

It was in this latter locality that the celebrated *Rishi* Viṣwámitra, a *Kshatriya* by birth, a *Bharata*,¹ and the *Purohit*² of King Sudás, addressed "the *Vipás* and *Šutudri*," near whose banks that monarch resided.

The mention of the name of Viṣwámitra introduces us to a theological controversy of much moment, in the investiga-

¹ Wilson, *Rig-Veda*, vol. iii. p. 50, verse 1, "Rushing from the flanks of the mountains, eager (to reach the sea) like two mares with loosened reins contending (with each other in speed), like two fair mother cows (hastening) to caress (their calves), the *Vipás* and *Šutudri* flow rapidly with (united) waters," and note 2, p. 51, verse 5, "Rivers charged with water, rest a moment from your course at my request, who go to gather the Soma (plant): I, the son of Kuśika, desirous of protection, address with earnest prayer especially the river before me." Verse 11, "Since rivers (you have allowed me to cross), so may the *Bharatas* (that war-loving tribe) pass over." Note 2, "The *Bharatas* are said to be of the same race as Viṣwámitra." Muir, vol. i. p. 340, Viṣwámitra says, "When the *Bharatas*, that war-loving tribe . . . have crossed thee." Note 131, "The men of the family of *Bharata*, my people."—Śāyana.

² Max Müller, *Ancient Sanskrit Literature*, 1859, p. 485, clearly defined the profession and status of the Vedic *Purohita* or *prases*, in special reference to this King Sudás, and he adds, incidentally, p. 81, "But while Viṣwámitra contented himself with maintaining the rights of his tribe or family, and became reconciled as soon as he was allowed to share in the profits of the priestly power," etc.

tion of the serial authenticity of the Vedic hymns, which arose out of the fact of his having been avowedly born a KSHATTRIYA, and having eventually, by some means or other, attained the status of a BRAHMAN.¹

In my previous references to the Rishi *Vyāsa* I have been led to suggest that the Vedic Aryans did not take so prominent a part in shaping the germs of the Indo-Aryan religion as has hitherto been supposed.

In the present instance, Viṣwámitra's ultimate elevation to the sentimental higher grade, seems to have been the more defined from the prominent position he assumed in the rivalry between the representatives of the severally local and exotic divisions of what was eventually to become an unacknowledgedly combined creed.

In this case he appears not only as a successful warrior, as became a true *Bharata*, but he clearly at some time held the sacerdotal office of *Purohit* to Rāja Sudás, a priestly function which, in those early times, implied the keepership of the king's conscience, and incidentally a mission not far removed from the conventional duties of a *Brahman*, as developed in later days.

The most ancient of all the home religions of India, of which we have practical survivorship, seems to be represented

¹ Mr. Muir has collected, in his *Sanskrit Texts*, every possible reference to this great schism. Although I quote in full his summary of the later reconstructions of the old story, I prefer, like him (i. 318), to take as authentic only that version which has been accepted in the texts of the Vedas. "The fourth chapter contains a series of legendary illustrations derived from the *Rāmāyana*, the *Mahābhārata*, and the *Purāṇas*, of the struggle which appears to have occurred in the early ages of Indian history between the Brāhmanas and the Kshattriyas, after the former had begun to constitute an exclusive sacerdotal class, but before their rights had become accurately defined by long prescription, and when the members of the ruling caste were still indisposed to admit their pretensions. I need not here state in detail the contents of the first five sections, which record various legends descriptive of the ruin which is said to have overtaken different princes by whom the Brāhmanas were slighted and their claims resisted. The sixth and following sections contain, first such references to the two renowned rivals, Vasishtha and Viṣwámitra, as are found in the hymns of the *Rig-Veda*, and which represent them both as Vedic rishis; secondly, such notices of them as occur in the Brāhmanas, and show that Viṣwámitra, as well as Vasishtha, had officiated as a priest; and, thirdly, a series of legends from the *Rāmāyana* and *Mahābhārata* which describe the repeated struggles for superiority in which they were engaged, and attempt, by a variety of fictions, involving miraculous elements, to explain the manner in which Viṣwámitra became a Brāhman, and to account for the fact which was so distinctly certified by tradition, but which appeared so unaccountable in later ages, that that famous personage, although notoriously a Kshattriya by birth, had nevertheless exercised sacerdotal functions."—Muir's *Sanskrit Texts*, vol. i. p. xi.

in the very simplicity of the devotions of Jainism, where each man could say his own homely prayer, leave his own offering, however small a flower, on the altar of his faith, without the intervention of any priestly director.¹ And yet these simple aborigines came in process of time to recognize the formality without the functions of a "Brahman."²

In addition to this, Viṣwámitra's intellectual training and imaginative powers must have been of a high order, to have enabled him to compose so many Vedic hymns in the various metres³ and archaic language of the earlier chants. His Indian tendencies are elsewhere shown, alike in his knowledge of home geography, his local associations, etc., but more markedly in the contrast implied in the list of the auxiliaries of his adversary, who, as Prof. Wilson, at an early stage of our investigations, remarked, were "all foreigners."⁴

His great rival Vasishṭha was also the author of very many hymns, and, according to Prof. Goldstücker, held pre-eminence over other Rishis, in his acquaintance with "sacred and sacrificial knowledge."⁵ Something of this leaning, indeed, appears occasionally in the very tenor of his hymns noticed below,⁶ which in themselves suggest a comparison with the simple form of "Accept this morning sacrifice, this libation, combined with fresh barley, with parched grain and curds, and with cakes, and sanctified by holy prayer,"⁷ which is the formula presented in one of Viṣwámitra's hymns.

¹ Wilson's Essays, vol. i. p. 319; quoted in J.R.A.S. Vol. IX. p. 157.

² J.R.A.S. Vol. IX. n.s. p. 157, note 1, and p. 178. There is a valuable note by Mr. Muir, in Vol. II. n.s. p. 260, on the derivation of the term *brahman*.

³ There are no less than four metres in one hymn. See Wilson's Sūkta xv. (liii.), vol. iii. p. 83.

⁴ Rig-Veda iii. xxi. "It is very remarkable that the forces summoned to take the part of the Brahman are all foreigners, Śakas, Yavanas, Pahnavas, and Mlechchhas, or unconverted tribes, as Drāvīras, Paundras, Kīralas."—Mahābhārata, Ādi Parva. ⁵ Goldstücker, Remains, vol. i. p. 258.

⁶ R.V. vii. 33. "1) The white-robed (priests), with hair-knots on the right, stimulating to devotion, have filled me with delight. Rising from the sacrificial grass, I call to the men, 'Let not the Vasishṭhas (stand too) far off' . . . 5) Indra heard Vasishṭha when he uttered praise, and opened up a wide space for the Tritsus. 6) Like staves for driving cattle, the contemptible Bharatas were lopped all round."

R.V. vii. 83. "The ten kings, who were no sacrificers, united, did not vanquish Sudās, O Indra and Varuṇa. The praises of the men who officiated at the sacrifice were effectual; the gods were present at their invocations . . . The white-robed Tritsus, with hair-knots, reverentially praying adored you with a hymn."—Muir, vol. i. p. 324.

⁷ Wilson's R.V. iii. 82.

THE WAY THE ARYANS ENTERED INDIA.

The world's limits, as known to the Vedic Aryans, have been epitomized above from their own sacred texts. It will be seen that they claimed no earlier state of existence than that bounded to the north by a corner by the Hindu Kush on one part, and the proximate west bank of the Indus on the other.

They have no tales to tell of residence in other lands. Their hymns commence, locally, within the above boundaries, and so to say *interne* themselves on the banks of the Indian Saraswatī, in which already holy place so many of their assumed revelations were made manifest, and where, clearly, some of their chants were for the first time reduced into writing.

The indirect confession of a new *pied à terre*, from which to operate, near the banks of the Jumna, to a certain extent disposes of the notion that the Vedic Aryans *composed* their extant songs in any ancient home on or near the Oxus. They no doubt retained to the last much of their primitive speech and many of the conventional phrases and invocations of the olden days of a pure nature worship.

In accepting the three points of entry as above formulated, the question now arises as to whether we can follow backwards in any way the earlier movements of these intruding races.

As I have said before, I am disposed to limit the extent of their penetration through the passes of the Hindu Kush, and proportionately to enlarge the number and power of those tribes who adopted the outlets of the southern gorges. And here I have to appeal to physical probabilities in regard to the possibilities of ingress of large bodies of men, horses and cattle through these alternative openings.

The Emperor Bábar, who had great personal knowledge of the difficulties and dangers of the more elevated passes, describes their obstacles in the following terms, while with almost a wave of his hand he disposes of all difficulties in what he calls "the straight road."¹

¹ The راه راست did not so much imply Roman straightness, or geographical directness, as the absence of obstacles.

"On the road between Hindustán and Khorasán, there are two great marts; the one Kábul, the other Kandahár. Caravans, from Ferghána, Túrkestán, Samarkand, Balkh, Bokhára, Hissár and Badakhshán, all resort to Kábul; while those from Khorasán repair to Kandahár. This country lies between Hindustán and Khorasán. It is an excellent and profitable market for commodities" (p. 137).

"The country of Kábul is very strong, and of difficult access Between Balkh, Kundez, and Badakhshán on the one side, and Kábul on the other, is interposed the mountain of Hindú-Kúsh, the passes over which are seven in number. Three of these are by Penjhír (Khawák, Túl and Bazára). Another route is that of Perwán. Between Perwán and the high mountain there are seven minor passes which they call the *haft-bachah* There are besides three roads in Ghúrband Another route is that of Kipchák, which leads by the junction of the rivers Súrkháb and Anderáb. This is a good pass. Another route is by the pass of Shibertu In winter, all the roads are shut up for four or five months, except this alone In the season of spring, when the waters are in flood, it is as difficult to pass these roads as in winter. . . . The road from Khorasán leads by way of Kandahár. It is a straight level road, and does not go through any hill-passes" (p. 140).

It is curious to observe in the distribution of ancient boundaries—which may be supposed to have followed certain laws of capabilities of access, rather than absolute geographical proximity—that the city of Kapissa itself was included within the limits of the Satrapy of Arachosia according to the Cuneiform Inscriptions of Darius, where it is mentioned in no casual terms, but in connection with the recovery of the province by the Imperial Achæmenians from a local rebel.

An incidental notice in the same official document brings us also into contact with the country of Gandhára, to which indirect reference is made in the Vedas, in the passage,

"I am all hairy, like a ewe of the Gandhâris" (R.V. i. 126, 1).¹

I extract the tenor of the geographical portion of the Persian Cuneiform text from the revised translation of M. Jules Oppert. Sir H. Rawlinson's original version of the Behistun inscription,² as well as that of Mr. Norris,³ derived from the Scythian counterpart of the same manifesto, are to be found in earlier numbers of our Journal. M. Oppert's rendering of the more immediately important passages is as follows:—

"Le roi Darius déclare: Ce Vahyazdâtes, qui s'appelait Smerdis, avait envoyé une armée en Arachosie. Un nommé Vivâna, mon serviteur, un Perse, était satrape en Arachosie, contre celui-là il avait dirigé son armée. Ils élurent un homme leur chef; celui-là leur parlait ainsi: 'Marchez, battez ce Vivâna, et cette armée qui obéit au roi Darius.' Puis cette armée que Vahyazdâtes avait envoyée contre Vivâna marcha pour engager un combat. Il y a une forteresse nommée Kâpiskânis: c'est là qu'ils livrèrent la bataille. . . .

"Pour une autre fois les insurgés se mirent en route pour engager un combat avec Vivâna. Il y a un pays nommé Gandutava:⁴ c'est là qu'ils livrèrent la bataille." Paragraph 11 goes on to mention "un fort en Arachosie, nommé Arsâda. Il le prit par force; ensuite Vivâna marcha contre son séjour, le prit là, lui et les autres hommes qui étaient ses principaux complices."⁵

The next boundary-line, in the apparent course of the downward movement of the Aryans, seems to bring us into proximity with the river Helmand.

If it is admitted that the Vedic Aryans reached its banks before their brethren of the Irânian branch, this may well have constituted a frequent battle-ground for the opposing factions. This region—as it was designated by the latter the

¹ Muir, vol. ii. p. 342; Wilson, R.V. ii. 19, "I am covered with down like a ewe of the *Gandhâris*." Prof. Wilson observed that the metre of this verse did not accord with that of the rest of the hymn.

² J.R.A.S. Vol. X. o.s. (1847), p. 235.

³ J.R.A.S. Vol. XV. o.s. (1850), p. 142.

⁴ Sir H. Rawlinson's version has *Gadytia*; Mr. Norris's *Gandytia*.

⁵ Journal Asiatique (1851), vol. xviii. pp. 72, 74, etc.

"splendid" Helmand, and described in the Vendidad, as the tenth place "(semblable) au Behisht, que je produis, moi, qui suis Ormazd, fut Herekhéeli, qui étoit pur,"¹—must have seemed preeminently a "promised land" to those, who still held in memory the ten months of winter and two of summer in Airyana Vaejô.²

And rival nationalities may well have contended step by step for this attractive section of the earth's surface, till the Deva-worshipping Aryans were driven up the mountains to the head-waters of the Kabul valley, or pressed downwards through the more open passes to the Indus.

Ferrier and other European travellers speak in enthusiastic terms of the vegetation on the belt of the Helmand below Girishk. And if we add that there is every reason to suppose that in early times the Lake of Zarah was filled with sweet water,³ the whole surface of the country must have presented a very different appearance to its present arid and desolate condition.

The following extract from M. Ferrier's travels will give some idea of the present fertility of the soil, when within reach of water, and furnish a suggestive indication of ancient prosperity in the extensive ruins still to be traced *in situ*.

"Seistan is a flat country, with here and there some low hills. One-third of the surface of the soil is composed of moving sands, and the two other thirds of a compact sand, mixed with a little clay, but very rich in vegetable matter, and covered with woods of the tamarisk, *saghes*, *tag*, and reeds; in the midst of which there is abundant pasture. These woods are more especially met with in the central part of the province, through which the Helmund and its affluents flow. The detritus and slimy soil which is deposited on the

¹ Anquetil, *Zend Avesta*, i. (2) p. 268.

² Haug, "Sacred Language of the Parsees," Bombay, 1862, p. 201.

³ Ouseley, *Oriental Geography*, London, 1800, p. 206. Ouseley's translation we now know was based upon the Persian version of the Arabic text of *Istakhri*, circa A.D. 900. The passage reads, "Its waters are sweet and wholesome, and afford abundance of fish. All about this lake are situated villages and small towns, excepting on that side next the desert, where there are not any habitations or buildings."

land after the annual inundations fertilize it in a remarkable manner, and this probably has been the case from time immemorial; at any rate, the number of ruins on the banks would lead one to suppose so. The banks of the Helmund are cultivated to the extent of $1\frac{1}{2}$ miles on either side, from Girishk as far as Mula-Khan; but from thence to the Tower of Alemdar they consist principally of grass land, and are more wooded than cultivated" (p. 247).

"The Helmund of the Afghans, the Etymander of the ancients, is a fine river, the only one to which these words can be applied between the Tigris and the Indus . . . At ten or twelve parasangs above Girishk it begins to flow over a sandy and gravelly bed and through a flat country within a channel less confined: it is then turned to account, and irrigates by artificial means the meadows and arable land in its vicinity, until, nearly exhausted by the soil, it reaches at its extreme limit on the south, the Lake of Seistan. . . The Helmund is also at several points prevented from overflowing by embankments of very ancient construction, which, for want of necessary repairs, have fallen into decay. The vegetation on its banks is as luxuriant as in the tropics. . . The water of the Helmund is cold, clear, fresh and sweet, and though a considerable portion is turned off for the purposes of irrigation, there is at all times sufficient for navigating it from Girishk to its mouth" (p. 428).

I have previously alluded to a possible prototype or an earlier Aryan *Saraswatī* than that the Vedic Rishis elevated into such sanctity on the southern slope of the Sewālik hills—it seems as if they had retained, in their new home, a reminiscence of a similar combination of river and lake in other lands.

It would perhaps be hazardous to assert that the coincidence of names altogether authorizes us to assume for them an earlier abiding place near a "sacred pool" on the lower Helmand, but there is some curious evidence contributing towards such an inference.

It will be seen, from the subjoined quotation, that this question greatly exercised Burnouf's mind in the course of

his Zend studies; and if he did not venture to claim a priority for the site of the lake Zarah, he was fully convinced of the identity of the derivation and meaning of the two designations of *Haraqaiti* and *Sarasvatî*—a conclusion which has since been amply confirmed by more mature comparative philology.¹

“Mais ce qu’il est important de remarquer, c’est la convenance de ce nom [*Haraqaiti*] donné à une ville, et par suite à une contrée au milieu de laquelle les anciens connaissaient un lac qui était la source d’un fleuve.² Le mot *Sarasvatî* (féminin de *Saras-vat*), et avec l’orthographe zende *Haraqaiti*, signifie en effet ‘qui a un lac,’ ou dans une acceptation plus générale, ‘qui a de l’eau,’ et si cette dénomination s’applique à une rivière, on ne peut nier qu’elle ne désigne aussi fort heureusement un district ou une ville traversée par un fleuve, ou voisine d’un lac! D’ailleurs, la rivière qui arrosait l’Arachosie se nommait également chez les anciens *Arachotus*; de sorte qu’en rétablissant l’orthographe primitive de ce nom de lieu, on pourrait dire que l’Arachosie était traversée par la *Sarasvatî* (*Haraqaiti*). Qu’un fleuve ait donné son nom à la contrée qu’il fertilisait, c’est un fait vulgaire, et dont les textes zends nous fournissent d’autres exemples. Dans un pays comme la Perse méridionale, l’existence d’une rivière est un phénomène capital, qui devient le trait caractéristique de la géographie de la contrée; et il suffit d’un examen superficiel des textes zends pour se convaincre de l’importance que le législateur des Ariens attachait aux rivières et aux lacs, dont les noms se représentent à tout moment dans les prières du Yaçna et dans les Ieschts. Maintenant, si je rapproche les deux mots *Sarasvatî* et *Haraqaiti*, et si je les ramène à une origine commune, je ne prétends pas pour cela que le nom de la

¹ “*Harauvatis* (*Ἀραχωσία*) est le Sanscrit *सरस्वती* ‘riche en lacs’; en

Zend, la contrée s’appelle *Haraqaitis*. Le Pehlevi *𐭠𐭣𐭥𐭥𐭥𐭥*, *arāmand* donne le même radical, seulement on a échangé le suffixe *vat* contre son équivalent *mat*.”—Darius, Inscription Persane de Bisoutoun (de l’an 510 B.C.), par Jules Oppert, *Tablet i. sec. 6*, *Journal Asiatique*, 1851, p. 283.

² Ptolemy vi. c. 20; *Amm. Marcell.* xxiii. c. 6.

Sarasvatí ait été transporté de l'Inde dans la Perse, ou de la Perse dans l'Inde, pour désigner, dans l'un ou l'autre de ces pays, un fleuve ou une province. Les dénominations de *Sarasvatí* et de *Haraqaiti* me paraissent aussi nationales, parce qu'elles sont aussi naturelles, dans un pays que dans l'autre. J'en tire seulement la conséquence que la langue zende a régné anciennement dans cette partie de la Perse."—p. xcii, Notes.

I have had occasion to advert to the inherent tendency of the Aryan mind to River-worship. Without attempting to trench upon the parallel tales of the Scamander, and other Greek River-gods,¹ it is here, so to say on their own ground, that we must ask what the Iránians thought of the Goddess of the Waters. "*Ardvi Súra Anáhita*" was something of a *Sarasvatí* herself, "who rolls under bridges, who gives salubrity, who defeats the devils (the thirty-three *Devas* of the *Vedas*), who professes the *Ahura* religion,"² and who, in another place, is emphasized as "the great goddess of the waters, . . . the heavenly spring from which all waters on the earth flow down," and elsewhere as one of "the good waters made by *Mazda*, the holy water-spring *Ardvi Anáhita*."³ And further on,⁴ "*Ahura Mazda*" himself is made to say to "*Spitama Zarathustra*," "Offer up a sacrifice, O *Spitama Zarathustra*, unto this spring of mine, *Ardvi Súra Anáhita*, the wide-expanding and health-giving."

My concluding extract scarcely touches the progress of the Aryans, but it concerns a site proximate to their presumed *nidus*, and is important, as exhibiting the state of advanced civilization existing in *Khárisma* at a fixed and very remote date.

As the period of the Vedic hymns was and is still undetermined, the discovery of an epochal system of reckoning,

¹ Prof. E. Curtius, and Prof. P. Gardner in *Roy. Soc. Lit.*; B. Brisson, *Tacitus*, etc., p. 214.

² Haug, pp. 178, 233.

³ *Zend Avesta*, by J. Darmesteter (1882), vol. ii. 52, 8, 16, 181. Here, in the *Farvardin Yast*, the prayer runs, "I maintain *Ardvi Súra Anáhita*, the wide-expanding, and health-giving, who hates the *Daevas*, the large river . . . that runs powerfully from the height *Hukairya* down to the sea *Vouru-kasha*."

⁴ Vol. ii. p. 1.

among the ancient Aryan races, pointing to so early an age as *circa* B.C. 1303, was at once felt to be a revelation of the highest interest.

Sir H. Rawlinson, who was the first to detect the original passage in Albírúni which supplied this information,¹ was under the impression that it might be associated with the Astronomical epoch referred to in the *Jyotisha*—or calendar of feasts—as the initial date of the Vedas themselves. But more severe criticism has thrown so much doubt upon the authenticity of the data upon which the Indian calculation was based, that any such identification has had to be frankly and definitively abandoned.²

I quote the following passage—bearing upon one of the old locations of the Aryan tribes—from Professor Sachau's translation of Albírúni's *Athár-ul-Bákya*, or *Chronology of Ancient Nations*:³—

“KHORASMIAN ANTIQUITIES.—In a similar manner the people of Khwárizm proceeded. For they dated from the beginning of the colonization of their country, Anno 980 before Alexander. Afterwards they adopted as the epoch of an era the event of the coming of Siyáwush bin Kaiká'ús down to Khwárizm, and the rule of Kaikhusrú, and his descendants over the country, dating from the time when he immigrated and extended his sway over the empire of the Túrks. This happened 92 years after the colonization of the country. At a later time they imitated the example of the Persians in dating by the years of the reign of each king of the line of Kaikhusrú, who ruled over the country, and who was called by the title of *Sháhiya*. This went on down to the

¹ Quarterly Review, October, 1866. Republished in his “Central Asia,” Murray, 1875, p. 246, quoted in my paper on Recent Pehlvi Decipherments in the J.R.A.S. Vol. V. n.s. (1871), p. 425.

² “And when we come to add that the *Jyotisha* has no definable place in the Sanskrit literature, or relation to the Vedic ceremonial, that we can only pronounce it later than the Bráhmaṇas and older than the Siddhántas, we shall see that this famous datum, which has seemed to promise so much, has caused so much labour and discussion, and is even yet clung to by some scholars as the sheet-anchor of ancient Hindu chronology, is nothing but a delusive phantom.”—Prof. W. D. Whitney, *On the Lunar Zodiac*, Cambridge, U.S., 1874, p. 384. Prof. Whitney refers also to his previous article in this Journal (1865), Vol. I. n.s. p. 316, and to his Note in *Colebrooke's Essays*, vol. i. p. 216.

³ Published by Messrs. Allen for the Oriental Translation Fund, 1879, p. 40.

reign of Afrigh, one of the kings of that family. Afrigh built his castle behind Alfír, an. Alexandri 616. Now people began to date from him and his children (*i.e.* by the years of his reign and that of his descendants).

"This Alfír was a fortress on the outskirts of the city of Khwárizm, built of clay and tiles, consisting of three forts, one built within the other, and all three being of equal height; and rising above the whole of it were the royal palaces, very much like Ghumdán in Yaman, at the time when it was the residence of the Tubba's. For this Ghumdán was a castle in Šan'á, opposite the Great Mosque, founded upon a rock, of which people say that it was built by Sem ben Noah after the Deluge.¹ . . . This Alfír was to be seen from the distance of ten miles and more. It was broken and shattered by the Oxus, and was swept away piece by piece every year till the last remains of it had disappeared an. Alexandri 1305."

As Sir H. Rawlinson pointed out, on his first examination of these recovered Arabic documents, a large field still remains open to students of Aryan philology, and those who would follow the primitive civilization of some of the possible patriarchs of our race—in Albírúni's detailed statements of the original "Festivals in the months of the Soghdians." Now that the Arabic version has been brought within the reach of European inquirers in M. Sachau's English translation, it is to be hoped that attention may be directed to the enlarged range of these enquiries.

¹ This reference to the Tubba's is curious in reference to the later tradition of the Himyaritic inscription on the gate of Samarkand, to the effect, "Šan'á is distant from Samarkand 1000 farsangs."—Ouseley's *Oriental Geography*, pp. 254, 293.

ART. XVI.—*Suggestions on the Voice-Formation of the Semitic Verb. A Comparative and Critical Study.* By G. BERTIN,
M.R.A.S.

EVERY race has in the course of time endeavoured, as the want of new expressions made themselves felt, to enlarge its vocabulary according to its turn of mind, or what is called its genius, either by mere agglutination or by affixes, etc. The Greeks, for example, have multiplied the number of their verbs in combining them with prepositions: the Semites seem to have followed a similar, though not identical process, which, however, has till now resisted all analysis. I propose, therefore, in this paper to examine those formatives which, with the verbal stems, have given birth to the voices. It must be remembered that the word "voice" is not used here as in the Aryan Grammars, but is used to designate the various modifications suffered by the stem and altering its meaning.

These modifications are brought about in two ways; namely, by affixes (prefixes or infixes), which are very extensively used, and by reduplication of part of the stem. The affixes are reduced often to a single letter, the vowels not being clearly expressed in most of the written Semitic tongues; and their modifying letters have been called "servile,"¹ because they serve to form new voices and are not part of the root. The process of reduplication, on the other hand, has been artificially limited to one part only of the stem. None of the Semitic tongues possesses the formative system fully and completely developed, but in each, traces of all or nearly all the voices are found. There is also in some dialects a series of passive voices formed by changing the inner vocalisation of the active.

¹ See note on next page.

For convenience of reference, I give here the table of the verbal voices of the principal Semitic dialects, following the classification of M. Renan (*Mémoires de la Société de Linguistique de Paris*, vol. i. p. 97) and taking as type the stem *qabal*.

	Primary Form.	Secondary Form.	Tertiary Form.
KAL.			
Assyrian	<i>qabûlu</i>	<i>qitabûlu</i>	<i>qitanbûla</i>
Hebrew	<i>qābal</i>	"	"
Aramæan	<i>qēbal</i>	<i>‘etqēbal</i>	"
Arabic	<i>qabala</i> (1)	<i>‘iqtabala</i> (8)	"
Ethiopian	<i>qabala</i>	<i>taqabala</i>	"
APHAL.			
Assyrian	"	"	"
Hebrew	<i>hiqbîl</i>	"	"
Aramæan	<i>‘aqbēl</i>	<i>‘ettaqbēl</i>	"
Arabic	<i>‘aqbala</i> (4)	"	"
Ethiopian	<i>‘aqbala</i>	"	"
NIPHAL.			
Assyrian	<i>naqbûlu</i>	<i>itagnbûlu</i>	<i>itanagnbûlu</i>
Hebrew	<i>nīqbāl</i>	"	"
Aramæan	"	"	"
Arabic	<i>‘ingabula</i> (7)	"	"
Ethiopian	<i>‘angabala</i>	"	"
SHAPHEL.			
Assyrian	<i>sugbûlu</i>	<i>sutagnbûlu</i>	<i>sutanagnbûlu</i>
Hebrew	"	"	"
Aramæan	<i>saqbēl</i>	<i>‘estaqbēl</i>	"
Arabic	"	<i>‘istagnbala</i> (10)	"
Ethiopian	"	<i>‘astagnbala</i>	"
PAEL.			
Assyrian	<i>qubbûlu</i>	<i>qitabbûlu</i>	"
Hebrew	<i>qibbēl</i>	<i>hitqabbēl</i>	"
Aramæan	<i>qabbēl</i>	<i>‘etqabbēl</i>	"
Arabic	<i>qabbala</i> (2)	<i>taqabbala</i> (5)	"
Ethiopian	<i>qabbala</i>	<i>taqabbala</i>	"
PÔEL.			
Assyrian	"	"	"
Hebrew	<i>qôbēl</i>	<i>hitqôbēl</i>	"
Aramæan	"	"	"
Arabic	<i>qa‘bala</i> (3)	<i>taqa‘bala</i> (6)	"
Ethiopian	<i>qa‘bala</i>	<i>taqa‘bala</i>	"

REMARKS.—Assyrian.—As this dialect does not possess an Aorist-Past proper, I give here as model the infinitives. In the secondary and tertiary voices of the Niphal, the characteristic *n* disappears in the infinitive and is assimilated to the *t* in the other tenses. There are few examples of a niphal with the second radical doubled *naqabbûlu*, which recalls to mind the rabbinical niphael. There are also traces of few other forms.

Hebrew.—In this dialect are found traces of a tiphel and shaphel, and also a miphel, this last being, however, very doubtful. The verbs having a vowel as middle radical form regularly a pael. A passive by vocalisation is found for few voices: *hiqbîl* pass. *hoqbāl*, *qibbēl* pass. *qubbāl*, *hitqabbēl* pass. *hotqabbāl*, *qôbēl* pass. *qôbbāl*.

Aramæan.—Syriac and Chaldee have traces of many other voices formed by inserting *u* or *w*, *y*, *m*, and *r*, by prefixing *m*, *s*, and *r*, and by doubling as a pael, palpel, this last voice is much more used than in Hebrew. In every case these

Prefixes.

The prefixes, or servile letters placed before the stem, are *a* (or rather the aspirate *h* or *ʿ*), *n*, *t* and *s*; they form the voices or derivatives named by the grammarians *aphal*, *niphal*, *tiphel* and *shaphel*. The first three of these prefixes recall to mind, and are identical with, the prefixes used to form the persons of the Aorist-present; on the other hand, Prof. Lee, among others, has already in his grammar¹ assimilated the nominal formative letters with those forming the voices of the verb. In a previous paper² I endeavoured to show that these nominal prefixes were the same which are found as personal prefixes in the Aorist-present, and I therefore think that all three may be traced back to the same origin, that is, to auxiliary verbs meaning 'to be,' 'to stand,' 'to exist' and the like. But this fact will be thrown in a clearer light by a careful examination of each preformative.

Prefix 'a.—This prefix is really a simple and slight aspirate, *h* or *ʿ*, it often appears even under the form of *y* or *i* and also *u*, the aspirate being so entirely absorbed by the vowel.³

There is in the Semitic tongues a verb formed by a single

voices have as passive a secondary or *t*-voice, though there are also few traces of a passive by vocalisation.

Arabic.—There are, besides the following voices, '*iqbanlay* (15), '*iqbanlala* (14), '*iqbawbala* (12), '*iqbawala* (13), '*iqballa* (9), '*iqba'lla* (11), which are rarely used. The numbers given between brackets are those of the order adopted by the Arab grammarians. All the Arabic voices form regularly a passive by change of vocalisation.

Ethiopian.—By analogy, the following voices have been developed:—

'*aqabbala* (aphel of pael), '*astaqabbala* (pael of istaphel),

'*aqabala* (aphel of pōel), '*astaqabala* (pōel of istaphel),

which are little used; there are traces of few other voices, and of a passive formed by vocalisation.

¹ Lee's Hebrew Grammar, § 157, *et seq.* (third edition, 1841).

² Journal of the R.A.S. Vol. XIV. p. 105.

³ It may be said that all initial vowels are always accompanied by an aspirate; when two vowels meet, if they do not coalesce, the speaker must separate them with an aspirate. This seems evident in English, where the *hiatus* is admitted in poetry. The fact that in the Anglo-Saxon alliterated poetry words beginning by a vowel rhyme together, their vowels being generally not the same, shows that what rhymes is not the vowels, but the *unwritten aspirate*, so in this verse of the Beowulf:

unriht æfnde, 68 ðæt ende becwóm

the alliterated words begin by an aspirate 'unriht, 'æfnde and 'ende. In the tongues where the aspirates are nearly altogether lost, all the words of a sentence are united together as forming one word as in French, or the vowels when meeting are fused together and form complicated diphthongs as in Italian.

aspirate, which has been trilaterised in various ways, keeping always its primitive meaning of 'to be,' 'to exist.' In Hebrew we have *hayah* 'to be,' 'to exist,' *hawah* 'to breathe,' 'to exist'; these two verbs were primitively the same, the Chaldee actually uses *hawah* or *hawa'* for *hayah*, the other form '*awah* supplies a derived meaning 'to become,' then 'to go forward in mind,' hence 'to desire' and 'to love'; it may be noticed besides that this last word is of a restricted use in Hebrew, and could often be translated by 'to be,' as in Prov. xxi. 10. With a similar meaning, '*away* is more used in Arabic, where was developed also another 'to become,' then 'to pass,' hence 'to die.'¹

It is from this primitive verb 'to be' that is derived the formative of the Aphel, or, rather, this formative is indeed this very verb in an abbreviated form. The original and primitive meaning of the prefix is often clearly retained in nouns, as in the Hebrew '*ezrah* 'home-born,' i.e. 'one who is native'; '*azkarah* 'a memorial'; '*hanaḥah* 'what is the rest.'² This formative is used to form verbs even with substantives, as in Hebrew '*heymyn* 'to be right-handed,' and also 'to be going to the right-hand side'; '*hišmī'yl* 'to be left-handed' or 'to turn to the left.'³

The voice so formed with the verbal stems is found in all the Semitic tongues, except Assyrian, where there are, however, traces of it.⁴ On account of its origin, the Aphal has a very wide meaning. It either takes the same meaning of the Kal, or emphasizes it, as *he'edim* 'to appear red,' from '*adam* 'to be red,' as a natural development has grown a causative meaning and the same word even appears with two meanings, as *hilbyn*, 'to make white' and 'to appear white.'

The prefixing of the light aspirate changes so little the

¹ In his grammar Prof. Lee, after connecting the two prosthetic letters, Aleph and He, seems to infer that all these verbs have the same origin. It is natural to suppose that, as in other cases, the different forms were distributed and localized to express various and different meanings.

² The words formed by prefixing yod, as *yzhur* 'oil' from *zahr* 'to shine,' are very few, and might be even considered as third persons of verbs used substantively like the French *vaurien*, *fainéant*.

³ Similarly the French have derived from *gauche* a verb *gauchir*.

⁴ In Assyrian there are verbs formed by a prefix placed before adjectives, as *a-tābu* from *tābu* 'good.'

primitive meaning that it has been largely used to trilateralised biliteral roots, and it explains why we find side by side such verbal forms as *sūm* and '*ašam*, 'to place, to lay.'

It must not be forgotten that the primitive verb *hayah* or *hawah* represented in compounds by the simple aspirate, is more a verb denoting the state than a verb "to be" in our modern sense of the word. The real verb "to be," which nearly always carried with it the passive meaning, we find in our next prefix, *n*.

Prefix n.—This prefix, formative of the niphāl so extensively used in all the Semitic dialects, has also been largely employed in the nominal formation, and the words so formed always retain clearly their derivation, as the Heb. *nōšab*¹ 'inhabited,' the Chaldee *nišba* 'hardness.'²

Though the primitive meaning of the niphāl formative has been in all cases clearly retained, the primitive verb has disappeared. I think, however, that we have this primitive substantive verb in *nūn* in Hebrew; this verb has remained till now unexplained, but in the few places where it appears the context shows clearly its meaning of a verb 'to be.' I think, therefore, that we have in the niphāl prefix a shortened form of this verb; a derived weakened but trilateralised form is found in *nawah*, with the developed meaning 'to sit, to rest, to inhabit.'³

As we might have naturally expected, the principal meaning of the niphāl is passive: *nipqad* 'to be visited'; it has, however, in some verbs a more developed meaning, as the Latin deponent verbs, often reflective: *nišpat* 'to judge for oneself,' i.e. 'to plead,' *nōhaš* 'to consult,' from *yahaš* 'to advise.'

¹ The long *ō* is represented by *ô* when the Cholem is placed over a quiescent vowel.

² It must be remembered that according to the theory of the Semitic grammarians all nouns are derived from verbs, and when verbs do not exist these are invented. Several modern scholars have protested against such an unscientific process. See Lee's Grammar, p. 83; Nominal Origin of the Semitic Verbs, by Prof. C. H. Toy, Transactions of the American Philological Association, 1877, p. 18.

³ With this root is connected *nūh* 'to rest, to sit down.' As we shall see further on, in many tongues the two ideas of 'to be' and 'to stand,' *esse* and *stare*, are confounded in some cases, and in others derived from the same root.

The modifications suffered in Assyrian by the prefix of the Niphal are worth special attention. In the strong verbs—that is, the verbs having three consonantal radicals—the prefix retains its form *na*, in the infinitive *narkusu*, and imperative *narkis* (kal *rakāsu* ‘to bind’), the permansive is not found; in the aorist past and present the vowel disappears, and the *n* is always assimilated to the first radical of the verbal stem: 1st pers. *arrakis*, 2nd pers. *tarrakis*, 3rd pers. *irrakis*, etc. Similarly in the secondary voice of the Niphal, the *n* being brought near the inserted *t*, is assimilated in the aorists: 1st pers. *attarkis*, 2nd pers. *tattarkis*, etc. The infinitive of this ittaphal, however, appears under the form *itaqbulu*.

In the verbs weak from the first radical, as *amāru* ‘to see,’ *alāku* ‘to go,’ *episu* ‘to do,’ *abālu* (for *wabālu*) ‘to bring,’ the prefix appears under the form *nan* or *nen*, so we have *nanmuru*, *nanluku*, *nenpusu*, *nanbulu*. This strengthened prefix is not always retained in the aorist, for we have *inikul*, 3rd pers. aorist Niphal, from *akālu* ‘to eat’; in other verbs—especially, it seems, those having *e* as first radical—the strong prefix is retained throughout: *innemidu*, 3rd pers. plur., from *emidu* ‘to stand,’ *innirisu* from *erisu*.

These apparent anomalies are easily explained. The Assyrian Semites, accustomed to a certain symmetry in their verbal forms, must have endeavoured to compensate the weakness of the first radical of weak verbs, and for this purpose they prefixed the Niphal formative under its stronger form, which, as we have seen, was *n-n* preserved in the Hebrew verb *nūn*; the vocalization was governed by the law of vowel harmony, so the prefix takes *a* with *amāru*, Niphal *nan-muru*, and *e* with *eribu*, Niphal *nen-rubu*, etc. The second *n* of the prefix must have been very weak, as it disappears sometimes altogether, and represented, no doubt, nothing more than a nasalization. The fact that this second *n* is written, and not assimilated to the next consonant, as it is the phonetic rule in other circumstances, indicates that it was not of the same nature.

As is well ascertained, the doubling of a consonant in

Assyrian is the ordinary, though not the only, means to express that the preceding vowel is long,¹ and the nasalization was another process employed for the same object.

Gesenius has already noticed this fact in the other Semitic tongues, in Hebrew and Chaldee, '*inbeh* for '*ibbeh*, *mandah* for *maddah*, in Arabic *sunbulat* for *subbulat*, in Ethiopian *sanbat* for *sabbat*.²

In my previous paper I have already noticed that it is this primitive verb, *un* or *an*, which has served as support to the pronominal suffixes to form the emphatic personal pronoun, *ana-ku* 'my being,' i.e. 'I'; *at-tu* for *an-ta* 'thou,' etc.³

Prefix t.—The primitive verb from which is derived the prefix *t* has been clearly preserved in the emphatic pronoun '*atanū* 'what is we,' or 'our being,' i.e. 'we,' and also in the Syriac '*yt*; but this verb had always, or at least at a very early period, an impersonal meaning: the Syriac '*yty* corresponds exactly to the French *c'est moi*, rather than to 'my self,' as usually translated. Hebrew has retained this root as an expletive '*at*, and is used to indicate in certain cases the accusative, as the '*an* of Arabic.⁴ Hebrew has also retained from the same root the verb '*atah*, with the meaning 'to come,' developed through the natural confusion of the verbs 'to be' and 'to go,' as in French *j'ai été* for *je suis allé*, a misapplication which has also arisen in English.

It was on account of its primitive impersonal origin, no doubt, that this formative *t* was the prefix mostly used in the nominal formation to express abstracts: in Assyrian, *tenisetu* 'mankind,' *tukumatu* 'opposition'; in Hebrew, *tēhillah* 'praise,' *tōrah* 'the law'; in Arabic, *tar'as* 'consensus,'

¹ The doubling of a consonant properly indicates sometimes that the accent is on the preceding vowel (see Proceedings of the Society of Biblical Archaeology, Nov. 1882); it is the case now in Italian *cedrato* and *cedratto* for *cedrito*, and also no doubt in Anglo-Saxon *reccelas* for *receleas*; but in Assyrian, as in our modern tongues, there was a tendency to confound length with accent.

² Lexicon, p. 523 (Tregelles' edition).

³ I may notice here that the Hebrew pronoun of the 1st p. plur. '*anahnu* is a weakened form of the singular '*anōky* with the old plural suffix *nū*; the other form '*anū* is the word 'being' with the possessive suffix of the first person plural, and must be for '*annū*; the Assyrian *anini* seems to prove that there were primitively two *ns*. As for the second person *anta* for *antak*, see my previous paper.

⁴ So in Armenian the prefix *z* came to indicate the accusative.

etc.¹ The prefix *t* has also formed what can be called adjectival nouns where the impersonal meaning of the formative is still more evident. For instance, in Hebrew, *talmyd* 'a disciple,' properly 'one who learns'; in Assyrian, *tasmetu* 'she who hears.'

Either to avoid confusion with the abstract nouns, or on account of its primitively long initial vowel, the formative prefix, with the verbs, took the form *hit* in Hebrew and '*et* in Aramæan, and in consequence, perhaps, also of this initial vowel, it was, little by little, considered as an infix. In Assyrian verbs the *t* is always inserted; in Arabic, though inserted in the secondary voice of the Kal, it is prefixed in the fifth and six forms, no doubt because the verbal stem had already undergone a modification. The voices with inserted *t* will be considered further on. In Ethiopian only, the *t* is prefixed in the secondary voice of the Kal without initial vowel, and that appears to be due to the laws of analogy, which have played an important part in the formation of this dialect.

Prefix s.—The prefix of the shaphel has left traces in all the dialects, but mostly in the verbal formation, rarely in the nominal formation; the voices formed with it are fully developed only in Assyrian and Aramæan, Arabic and Ethiopian having clearly preserved only a secondary form, as will be seen further on. The shaphel has everywhere a causative meaning.

What is this prefix *s*? It is found neither among the so-called pronominal prefixes of the Aorist-Present, nor in the independent nominal formation; however, its use, in all the dialects with the same force and for the same purpose, indicates its existence at a very early period of the Semitic tongue.

As regards the three previous prefixes, their origin has been traced and their existence proved as independent words, more or less altered to make them conform to a uniform tri-

¹ Few examples are sufficient here; the reader may refer to the list given by grammarians, and will find that *all* the words formed by prefixing *t* can be explained in the same way.

literal model; if the prefix *s* has a similar origin, we must find it also as an independent word, in a living state, so to speak. This is the case, indeed, to a greater extent than for the other prefixes: in Assyrian we have *su* 'he,' *si* 'she,' and the relative pronoun *sa*, which is also found in Aramæan and sometimes in Hebrew. These pronouns bring us back to a verb 'to be,' *yeš* or *iš*; "by far the most common use of the word is its being put for the *verb substantive*, without distinction of number or tense," such are the words of Gesenius.¹ The fact seems to be that *iš* is a unipersonal verb expressing the existence, the substance, the reality, a meaning well illustrated by the derivative *tūšiyah* 'what is really,' *i.e.* 'truth.' On account of this primitive meaning of the verb *yašah*, the pronoun derived from it had naturally an objective sense, designating a person in an objective position, and thence the relative value of the pronoun *sa*, exclusively used in Assyrian, was, as a consequence, developed.²

The prefix *s* being now considered as an objective pronoun of the third person, the formation of the shaphel becomes clear; for, if the prefix to the verbal stem is an objective pronoun, the action of the verb is naturally thrown from the speaker on to another absent person represented by the prefix; so, in Assyrian, *aktum* 'I concealed,' shaphel *usaktum* 'I (did that) one concealed,' *i.e.* 'I caused to conceal.'

Of course all the shaphel forms have not preserved the primitive causative meaning; often a new meaning is developed, for instance in Assyrian, *asābu* 'to sit,' shaphel *susubu*, primitively 'to cause to sit,' *i.e.* 'to place;' *harābu* 'to be devastated,' shaphel *suhrubu* 'to cause to be devastated,' *i.e.* 'to lay waste.'

The shaphel has been lost in Hebrew and Arabic, no doubt because the aphal grew to be a causative, and the other form was then rejected. It has been argued that the Hebrew

¹ Diet. p. 371.

² The objective force always carried by the prefix *s* explains also why few or no nouns are formed with it. If Assyrian, however, has applied the pronoun formed by it to the subjective third person, it may be due to some foreign influence.

hiphil represents the Assyrian shaphel on account of the regular change of the Assyrian *s* into the Hebrew *h*, as the Hebrew pronoun *hū'* corresponds to the Assyrian *sū*. If, however, this regular correspondence existed in fact, we ought to have *hakan* instead of *šakan* in Hebrew, answering to the Assyrian *sa-kānu*. Besides, we find in Arabic the same pronoun *hū*, and also an apha!, while the prefix *s* is preserved in the secondary form *istaphel*.

The fact is that this unequal distribution of the forms carries us back to the early period, when the Semites could form voices by prefixing any kind of pronouns and auxiliaries; when the language of each tribe was more developed, some forms were fixed and localized and others rejected as superfluous, so we see in the Sabæan inscriptions used exclusively the Apha! by one dialect, the Shaphel by the other, for the same purpose.

Prefix m.—The prefix *m* is considered, especially by the Arab grammarians, as a verbal formative; its use is, however, very restricted as voice formatives, and the few traces found in Hebrew and other Semitic dialects are even considered as doubtful. The prefix was largely used to form new nouns, and was in course of time exclusively reserved for this office. Nevertheless, if the voice formed by adding *m* to the stem ever existed in full use, it must have had a meaning analogous to that of the nouns with prefixed *m*, that is, instrumental; and it is indeed the force attributed in Hebrew to the doubtful *mīphēl*. What also accounts for the disuse of this voice is, that the prefix was at an early date localized as formative of the participle.

This prefix *m* has already been assimilated by Ewald to the pronoun *ma* or *mah*, in Hebrew 'what,' 'that which.' We therefore have again for this preformative a primitive substantive verb, the derivative of which has been localized to express these pronouns.

In Assyrian *ma* or *ama* has certainly in many passages the force of a verb 'to be,'¹ in the translations it has always been

¹ *ummā ana sari belia ama*. 'Be it so to the king, my lord.'—Pinches's

confounded by the Assyriologists with the enclitic *ma* (for *wa*), the Hebrew copula *w*, and rendered at the end of a sentence by 'also,' but if translated by 'is' or 'are,' the sense becomes much clearer.

The prefix *m*, forming instrumental nouns and names of agent, is to be distinguished from the one forming local and gentile names,¹ which seems derived from a word *ma*, meaning 'a place,' and perhaps by extension its inhabitants; this word, apparently lost as a single word, has however been retained in composition, in proper names, etc.: *masreqah* 'the place of vine,' town of the Edomites. With this primitive word might be compared the Hebrew '*amah*'² and its derivatives: '*umma*' 'people,' '*amma*' in Arabic 'to be related.'

Infixes.

As already noted, the formative *t* appears but exceptionally as prefix, and in the verbs always plays a secondary part; this character of infix is preserved throughout only in Assyrian. The secondary character of the *t* voices has been well defined by M. Renan, who gives to them a reflective value. This reflective character is easily understood, if we bear in mind the primitive meaning of the formative, which is, as we have seen, a verb 'to be,' impersonal and indefinite. In Egyptian we can actually trace in the inscriptions such a development in the case of the verb *tu* 'to be,' which has formed an indefinite pronoun *tu*, having the meaning of 'some one,' as the French *on*, and which, when used as an auxiliary, gives an indefinite meaning, e.g. *tu t'at*, rendered exactly by the French *on dit*, in English 'it is said'; the reflective meaning comes naturally, as is shown by the Italian

Babylonian Texts, p. 7. It is possible that the adverb *umma* 'thus, so' may be connected with this primitive verb.

¹ It may be, however, that the two prefixes have really the same origin, the idea of locality is easily developed from that of being. We have 'State,' a constituted Society, used often as the land or country.

² This root '*amah*' seems to have been confounded at an early time with '*em*' 'mother,' and the etymologists derive words sometimes from one, sometimes from the other. In Hebrew '*amah*' has been localized to mean 'handmaid,' and is even by some considered as a derivative of '*em*'; '*amah*' would be 'a small mother,' 'a secondary wife.'

rendering *si dice* for 'it is said,' and the use of the passive verbs in Greek and Latin to express the reflective.

The Assyrians have in their dialect developed, for these secondary or *t* voices, another meaning peculiar to themselves, which expresses that the action is done in the interest, or on the own responsibility, of the speaker; for instance, *iqtabu* 'he speaks for himself,' i.e. 'he said on his own responsibility.'

Combined with the three primary prefixes, the infix *t* forms three new voices, which we call secondary: 1° a-ta-phal, 2° na-ta-phal, and 3° sa-ta-phal.

The first two are often confounded, as the prefix of the Niphal generally appears, as in Arabic, with an initial vowel all through the tenses. As we have seen in Assyrian, a long vowel—which would be the characteristic of the formative prefix of the Apha—is often represented by doubling the following consonant, and, as *n* is generally assimilated, the two secondary voices, *ā-ta-phal* and *na-ta-phal*, would both appear as *attaphal*. As a matter of fact, the secondary voice of the niphal is in Assyrian *itaqbulu* in the infinitive, the *n* having been assimilated and then dropped, and this form would be identical with the ataphal or secondary voice of the apha, if it existed.¹ In all the other Semitic dialects, the secondary voice of the niphal has been lost, having been no doubt related to, and afterwards absorbed in, the secondary voice of the apha, or replaced by another voice. Syriac, which has, like Assyrian, preserved the symmetry of formation, doubles the *t* of the ataphal, which becomes ittaphal, a form exactly like that which we should expect for the secondary voice of the niphal, if it existed in the Aramæan dialects.

As we have seen, Arabic and Ethiopian have lost the Shaphel, but have preserved its secondary voice, formed by adding, however, as in Aramæan, an initial vowel, giving thus an istaphal: Assyrian alone gives examples of the regular formation *sutaqbulu*.

If, now, the verbs formed by the three derived voices,

¹ It is forms of this kind which made some suppose the existence of an apha and ataphal in Assyrian, but, though traces are found in the nominal formation, such voices do not seem to have ever been in use among the Assyrians or Babylonians.

a-phal, ni-phel, and sha-phal, be considered as verbal stems, the *t* of the secondary voices would be a real infix; its use, has, however, nothing surprising if we keep in mind the compound origin of the stems. But how can we account for the insertion of a *t* in the so-called triliteral roots? Are we to suppose that the *root* was split into two parts to insert the *t*? Such a process would revolt scientific minds, and would certainly never be employed by a simple and primitive people. If we only had for infixes 'a or 'u, or even liquids *r*, *l*, *n*, it might be explained, for want of better reason, as developed from the primitive vowel pre-existing in the stem; but how can we explain such a form as *qa-ta-bal* from *qabal*?

No answer has as yet been given, for no one has ever had the courage to say that we have here a form created regularly, as the secondary voices, by placing the primitive auxiliary verb, reduced to *t*, between the two elements of a compound stem. No one ever dared to say so, because by so doing he would have to admit that a great number of the triliteral roots are really compound words, and upset the theory of trilateralism, accepted religiously and kept superstitiously by the Semitic scholars. But what are such words as *sakānu*, and the like? Have we not here a shaphel of the biliteral root *kūn* 'to exist,' with the primitive meaning 'to stand,' as the French *être* from *stare*? The shaphel of *kūn* would give the meaning 'to cause to stand,' i.e. 'to place,' which is the exact meaning of *sakānu*.¹

Is that an isolated fact? Is it likely that a process of formation applied once for the development of a language was abruptly given up or narrowly limited? The formation by means of servile letters is admitted to explain quadrilateral verbs. Why should it be rejected to explain triliteral verbs?

It has been argued by some of the exclusive scholars that the Semitic tongue had always been triliteralistic, and by

¹ The hypothesis is also supported in regard to *sakānu* by the fact that this verb generally takes, as vocalisation of the aorist, the vowel *u*, which is the one especially affected to the secondary voices. We will see further on why these voices took by preference this vowel.

some less exclusive that, if we go back to the pre-triliteral period, it would no more be Semitic. We cannot, however, imagine that the Semitic primitive tongue grew spontaneously in a day, for we know that every language requires a long period of incubation and development before acquiring its characteristics and its individuality. Gesenius and Ewald themselves admit in many places the growth from biliteral to triliteral roots. Then, if a language develops, is it not more rational to admit that it should develop by the same process which we find in actual use till after its formation? for do we not see the same process of formation applied at all times by the Semites to form new words from foreign roots? The foreign words are invariably triliteralised when they pass into Hebrew, Arabic, etc.

When the tongue was developed, and had arrived at an harmonic system of trilaterism, there was a natural tendency to treat as primitive roots the biliteral stems or so-called weak verbs when strengthened by one of the prefixes. Most of the stems beginning by *a*, *n*, and *s*, may therefore be considered as aphael, niphal, and shaphel verbs. A glance through any of the Semitic dictionaries would suffice to convince the most sceptical.

As already noticed, the *t* of the secondary voices would, when these verbs were treated as primitive stems, appear to be a real infix, and such forms as *sitakunu* are easily explained. But as to the others? Analogy might perhaps suffice in some cases to explain the insertion of the *t* after the first radical in the other stems, for analogy is one of the strongest guides in the development of a language; in French, for instance, new verbs are every day formed by merely adding to a word the termination *er*, as in *télégraphier*, and we see formed by analogy in Ethiopian such voices as *astaqabbala* and *astaqābala*; in the rabbinical Hebrew a niphael as passive to the pael, parallel to the niphal passive to the kal. But there is indeed evidence that a great many of the triliteral roots, so called, are really compounds of a verb and a noun. It must always be borne in mind that all compounds were afterwards forced into the triliteral

system, and, their formation being forgotten, treated as primitive roots.

Naturally in this process of formation the two components suffer more or less, one of them being often reduced to a single letter. The Semitic scholars seem unwilling to accept such a system of composition, though there are uncontested and uncontested examples of it in proper names, as: *yōnatan* (whom Jehovah gave), and *natanyah* (given by Jehovah), where the name of Jehova (*yhowah*) is reduced to two letters. The method of abbreviation for compounding purposes is besides general in every language of the globe, and Semitic does not seem to be an exception.

In the Semitic dialects, however, the primitive formation is often difficult to detect, and we must advance only with the greatest caution.

M. Ancessi, in his excellent study on the triliteral formation,¹ has shown by hundreds of examples that most of the triliteral so-called roots were developed from more primitive biliteral and uniliteral words. It is needless to give here the long series of these innumerable examples, a few will suffice, and I simply refer the reader to the valuable paper of the French scholar:

pūh 'to breathe,' *ya-pah* and '*a-pah* 'to breathe,' *na-pah* 'to breathe, to blow,' *ša-pah* 'to spread out,' *sa-pah* 'to pour,' *ša-pah* 'to spread out,' *ša-pyh* 'inundation,' *ta-pah* 'to spread out,' *ša-pah* 'to spread, to be wide.'

All these words are found in Hebrew, in each case I have checked the meaning; other derivatives are also found in cognate tongues, as *ri-pah* 'to be rich,' in Arabic. I have also neglected the derivatives where the guttural *h* has been weakened into *h*,² as *za-pah* 'a liquid,' though they might be easily connected.

qūr 'to dig,' *na-qar* 'to dig, to bore, to pierce,' *ba-qar* 'to pour out, to spread,' *da-qar* 'to thrust through, to pierce,' *ha-qar* 'to search, to explore,' *ba-laq* 'to make empty,' *ha-laq*

¹ Actes de la Société Philologique, vol. iv. part 1, *La loi fondamentale de la formation trilitaire*, Paris, 1874.

² The hard guttural *h* of the Hebrew is in many cases weakened into *h* in Assyrian, and sometimes disappears altogether.

'to smooth, to divide, to disperse,' *ma-laq* 'to break;' *ma-šik* 'to draw,' *pa-siq* 'to open wide,' etc.¹

I must, however, notice that according to the theory of M. Ancessi, the primitive uniliteral stem has gradually grown by addition of new letters into biliteral and then triliteral. This theory cannot be accepted more than the monosyllabism of the supposed primitive Aryac, but, though M. Ancessi was no doubt wrong in his theory, the facts he gathered remain; it must be admitted that whatever was the principle that guided the primitive Semites in the word-building of their language, we have in the so-called triliteral root an agglutination of at least two words; therefore the formative *t*, being always in a secondary position, was placed after the first element represented by the first radical letter of the triliteral stem.

Thus only can we account for the voice with *t* inserted.²

When once the process was in use, and its origin and reason forgotten, it was applied by analogy to the real triliteral roots, as the Arabs now apply their voice formation and their broken plurals to foreign words borrowed by them.

Infix 'a.—What has just been said about the *t* voices makes easy the explanation of the pōhel of Hebrew, the third Arabic form, and others, inserting a long vowel. We must have in these voices an inserted aspirate, 'u or 'a. The two vowels, separated only by a slight aspirate, are easily resolved into a long vowel, as we see is generally done in weak verbs, and the aspirate often disappears altogether. We have, no doubt, in this aspirate the remnant of the auxiliary verb which has formed the apha, and which is prefixed to the second part of the compound stem.

¹ It must be noticed here that M. Ancessi did not hold the same theory as I on the triliteral formation; these examples cannot consequently have been chosen to suit my views.

² To dispel all misunderstanding it is necessary to remind the reader that the infixes are really prefixes placed before the second element of a compound stem, so that the secondary voices are parallel voices formed as to the kal, but with a modified stem; the secondary voice of the apha (Syriac) 'ettaqbel is really the apha of the modified stem taqbel, as the apha 'aqbel is formed from the kal qēbal; the secondary voice of the shaphel (Assyrian) sutagbulu, is really the shaphel of the modified stem *tuqbulu, as the shaphel suqbulu is formed from the kal. The arrangement and classification of the forms is the work of time, that is why so many are wanting.

As already noticed, the long vowel is often expressed by doubling the following consonant. There was, therefore, a natural and inevitable confusion between pôhel and the pael: the first has been clearly preserved in Arabic and Ethiopian, where it has the same force as the pael, and is then confounded in meaning: in Hebrew, only a few isolated examples of pôhel have been preserved, and are considered as abnormal pael. In Assyrian, the existence of these voices is difficult to detect on account of the system of writing, and there is no doubt, if it ever existed, it was at an early date confounded with the pael. Aramæan has only a few doubtful traces.

This voice has been preserved in Arabic, not because Arabic has maintained the oldest form¹—for it has, in fact, lost the shaphel and the secondary voices of aphel and niphāl—but because Arabic has maintained the guttural and aspirate with their full force for a longer time, so that the vowels with the aspirate between them could never be fused together.

Infix n.—Among the Semitic tongues, Assyrian seems to be the only one forming regularly tertiary voices by inserting *n* after the *t* of the secondary voices. As this inserted *n* appears in Assyrian only after the *t*, it has been assumed by some that the combination *t-n* was borrowed from an Akkadian form: this—though rather unlikely, for grammatical forms are seldom borrowed from one people by another—might be admitted if the inserted *n* was never found by itself in other dialects, but examples are to be found in the XVTH and XVIth Arabic forms. We must also notice that in one or two instances the Assyrian writing seems to indicate that the two infixes *t* and *n* are not to be treated as one: for instance, *it-ta-in-ras*.² The *n* as an infix is therefore independent of *t*.

¹ I take this opportunity to declare clearly that I do not believe in the existence of a primitive Semitic settled tongue, as some are inclined to do, but that the various Semitic dialects developed slowly, and that the process of development which has formed the main points and given a special character to these languages was still applied in a certain measure at all times. The Semitic tongues have been subject to the same laws of development as the others; as for the Latin tongues grown out of Latin, they must have grown out of a primitive stock, with this difference that the primitive Semitic was not settled as the Latin, and, as in all unsettled states of language, it had no regular formation, all the processes which later on were used being employed no doubt indifferently.

² Pinches's Babylonian Texts, p. 20, l. 15. There are two or three other examples.

It is rather tempting to see in this infix *n* the same formation as that of the niphāl, and the double use of *t* as prefix and infix would tend to support the supposition. However, the use of *t* as secondary formative can only be derived from its reflective character; it would be otherwise difficult to admit compounds where would enter two affixes having both the same primitive force and meaning. Rationally, we would therefore expect that the two *ns*, prefix and infix, would have, if they had the same origin, grown into two distinct formatives.

The inserted *n* might, indeed, be explained as a nasalization, and in some cases such is undoubtedly its origin. Besides, in Assyrian, Aramæan, Arabic, and Ethiopian, the doubling of a letter, which often indicates merely the accent or stress, is replaced by *n*, inserted before the letter to be doubled. But if this character of the infix *n* is evident in some cases, the regular formation of the Assyrian tertiary voices, and the existence of the Arabic XVTH and XVITH forms—traces of which might be detected in other dialects by a general and rigorous analysis of the vocabularies—point in many instances to the real existence of an infix *n*, or, if preferred, to an early separation and distribution of the two primitive meanings contained in the original word, which has given the niphāl prefix. As we have already seen, the primitive verb ‘to be’ *nawah*, from which is derived the prefix of the niphāl, has developed many particles, as the expletive ‘*an* of Arabic: but this is one among many. Assyrian has been much further, and has taken from this same root its two most important prepositions, *ana* and *ina*. The use of the expletive *an*, largely and almost exclusively used for such a purpose, has left traces in all the dialects, and as the ‘*at* of Hebrew often denoted merely that the following word is the accusative, this *n* for this reason is used before the first person suffix, when regimen of the verb: Arabic *darabta-ni* ‘thou didst strike me’; Hebrew *kētaba-ni* ‘he wrote to me.’ This expletive must be the same as our inserted *n*.¹

In Assyrian, the infix must have a meaning more or less

¹ Egyptian gives us the same development: *ūn* ‘to be,’ *an* expletive, *n* preposition.

related to the two prepositions *ana* and *ina*, and the tertiary voice formed with it gives, we find, to the primitive stem a strengthened, reduplicative, or frequentative meaning. This meaning is exactly the one given in Greek to the derivative verbs formed with the preposition *ἐπι*.

In the other Semitic dialects the formation with the infix *n* has never been developed, or was perhaps lost, the few cases detected are isolated and abnormal. This is no doubt due to the fact that the expletive never in these dialects acquired the strength of a preposition.

It might be objected that, if a formative was developed from a preposition, it ought to be prefixed, not infix. No doubt; but it must not be forgotten that all Semitic roots are nouns, and take a verbal force only by means of verbal prefixes or pronominal suffixes, and it is quite probable that some of the niph'al verbs are compounds of an auxiliary verb 'a 'to be,' a preposition *n* and a noun, but the auxiliary verb was indispensable.

As we have seen, many of the so-called trilateral roots are really compounds of a primitive verb and a noun; if the preposition — our infix *n* — was placed between these two components when the first was uniliteral, the *n* was assimilated with the next consonant, and the voice then confounded with the pael; we however find examples of words with *n* inserted after the first radical, and not assimilated.

It is natural to suppose that verbs requiring an expletive or preposition before their regimen must have had a more complicated meaning; on the other side, all the primitive verbs reduced in composition to a single letter have a very simple meaning, as 'to be,' 'to go,' 'to give,' etc. The words expressing a more complicated action could not have been reduced to monosyllables without losing their clearness, and it was the second component which was abbreviated to force the new stem into the trilateral system. These words must have been extremely scarce: that is why such a small number of examples of the voices formed by the inserted *n* are found. It must be also noted that the examples on which were cast the XVTH and XVIth Arabic forms, give a

doubling of the third radical or the addition of a *y*, which seems to indicate that the second component wanted strengthening, and this formation was for this reason no doubt avoided. In Assyrian the tertiary voice, being formed without reducing too much the primitive components of the stem, was naturally developed.

The facts which have just been analysed are not isolated and confined to one affix. If from the primitive verb *un* was developed parallel to the verbal prefix a preposition, and this preposition employed as an affix, the tendency to do the same with the other formative verbs must have existed at the earliest stage of the tongue. The substantive verb *ut* has indeed developed, by the side of the formative of the *t* voices, several particles, as the preposition *t* of Arabic, the Hebrew 'et 'with,' 'at,' etc. When this preposition was inserted, it was confounded with the *t* formative of the secondary voices, but there can be no doubt that we have a form created as the tertiary voice by the insertion of a *t*—primitively a preposition—in the word *uste-te-ser* from *esiru*, and *ukta-ta-šir* from *kaširu*, where the preposition *n* is replaced by the preposition *t*; with *n* we should have *uste-ne-šir* and *ukta-na-šir*.¹

Infixes r and l.—There are two other letters recognized as infixed formative letters, *r* and *l*; the last is also considered as a suffix-formative. It is by the insertion of *r* after the first radical that many quadriliteral verbs are explained: *kirbel* 'to girdle,' *kiršem* 'to devour,' *karsaha* 'to run,'² *paršad* 'to distend,' *paršez* 'to expand,' *karkah* 'to be even,' etc. In the same way *l* is considered as infix in *zilhap* 'to be very hot,' and suffix in *hargal* 'to leap,' *gibhol* 'a corolla,' *karmel* 'a garden,' *jahfal* 'to come forth,' etc., and *r* is considered as a prefix in *rutpaš*.

The different ways in which we have seen the formatives *n* and *t* applied to form new words and new voices must have prepared us to accept these statements, if we could only discover which is the word or words from which were derived

¹ We have here an example of vocalic harmony, the infixes taking *e* with *esiru*.

² The great number of quadrilaterals in Arabic beginning with *kar* might incline one to see in them compounds of a verb *kar* with nouns more or less abbreviated.

these formative letters, as we have discovered it for the others 'a, n, and t.

This question of the origin of these quadriliteral verbs has however been one of the most puzzling to the Semitic grammarians. Some suppose that *r* is inserted as *n*, to take the place of the doubling; that may be possible, but is unlikely. Gesenius supposes *paršez* to be a kind of agglutinated word from the fusion of two others, *paraš* 'to expand,' and *paraz* 'to separate,' and in the same way *parsed* from *paraš* and *parad* 'to separate'; though this telescoping process might have been resorted to in a few cases, and may explain these two quadrilaterals, all of them cannot have a similar origin. The same scholar declares that the *l* suffixed to form a few quadriliteral words is a diminutive characteristic; but this theory, which might hold good for such words as *karmel*, *gibhol*, and the like, is inadmissible for *jahful*.

The uncertainty in which the etymologists were, is indeed shown by the fact that they brought forward as many theories as there were words to be explained, and in some cases, failing any new theory, they assume the word to be of foreign origin.

The fact that *r* and *l* are generally inserted after the first radical would seem to favour the idea that we have in them the remnant of an auxiliary verb, as in the case of the infix *t*. This is the view I am inclined to take, though no trace of the supposed auxiliary, as an independent word, is to be found in any of the Semitic tongues.¹ No regular voice is formed by the inserted *r* or *l*, and it may be because the supposed auxiliary verb was lost at an early period, and only preserved in a few words, in which it no more carried its primitive meaning.² Because a word has ceased to exist

¹ I say "the supposed verb" because I believe that the *l* and *r* are two forms of the originally same formative, these two letters interchange easily.

² The supposed verb must have expressed an idea of motion, and would have formed such prepositions as the Chaldee 'arū, the Arabic and Hebrew *l*, the Assyrian *lu*, etc., and it might be detected in a few trilateral roots. It may be noticed here that Assyrian possesses about half a dozen quadriliteral verbs: *nāplusu* 'to perceive,' *nāpruku* 'to discontinue,' which are niphāl verbs, and *sarbutu* 'to spread,' a shaphel verb, the others are only used in the niphāl, and are formed by the insertion of *r* or *l* after the first radical; *nabalkutu* 'to transgress,' *naparsudu* 'to flee,' *napalsuhu* 'to weigh.' There would be an interesting study to make on the origin of the prepositions, for we see that each formative has one or more prepositions corresponding in meaning and form.

independently, we must not, therefore, deny its existence, and reject the etymology of the compounds, where it has been preserved; if Latin had been lost, etymologists might doubt the existence of the preposition *ex*, preserved in the French *ex-poser*, because this preposition has been lost in French as an independent particle.¹

Doubling.

The process of doubling a word to modify its meaning is most natural, and has been universally employed in Egyptian, Akkadian, Aryan tongues, etc. We have still examples and traces of it in the reduplication of the Greek verb, in a few Latin perfects: *dedi*, *pepuli*, *cucurri*, etc.² In the Semitic tongues it appears under a peculiar form; the middle consonant or second radical of the so-called trilateral roots is alone repeated.³ To a western mind it would appear as barbarous and violent a process as the insertion of a strange letter in the middle of a root, if it is, as it has been till now, presented by the grammarians without any explanation.

The reduplication was at first complete, as *parpar* 'to move,' *galgal* 'a wheel'; this is preserved only in weak verbs, which being really biliteral, give the complete reduplication. In some strong verbs two of the radicals only were repeated, as in *še-har-har* 'to be restless,' *ha-mar-mar* 'to be agitated, like the sea.' Generally the reduplication is expressed by the doubling of one letter only, the middle or second radical: *qabbala*. This last system has been at the classic stage of all the Semitic tongues exclusively employed, and by analogy extended to all the verbal stems, but the first two methods of reduplication, preserved abnormally in a few words, show us the origin of the third.

¹ There are a few examples where we see the other infixes inserted (*i.e.* prefixed to the second element of the stem), as *m* in the Syriac *hamšen* and *etmšhar*; but as these examples may be contested, I purposely leave them out.

² *On the verb-reduplication as means of expressing the completed action*, by Alenzo Williams, in the Transactions of the American Philological Association, 1875, p. 54.

³ At the outset it is necessary to make a distinction between the two kinds of doubling, one which is, as will be shown, a short way to express the reduplication of the whole word, and the other which merely indicates the accent, or rather stress. This distinction is most essential.

The pael,¹ or doubling of the second radical of the triliteral strong verbs, represents therefore the full reduplication; so we find *kāl* 'to measure,' forming *kīkkel* 'to hold'; *šūk* 'to anoint,' forming *šīkšek* 'to cover with arms.'

These reduplicated forms are so numerous in the Aramæan dialects that Hoffman has been induced to consider the *palpel* and its secondary voice *ethpalpal*, are regular though little-used voices.²

If such reduplicated stems were abbreviated, we should get triliteral words having the same letter for the first and second radicals, as: *kīkar* 'the globe,' for *kīkhar* from *kūr*; *kōkab* 'star,' in Assyrian *kakkabu*, for *kabkabu* from *kūb*: *gugulta* 'a hill,' from *galal* or *galah* (primitively *gal*), etc.³

The grammarians, most of them at least, will however persist in considering these words *kūr*, *kūb*, *gal* as abbreviated forms of roots having the same letters as second and third radicals, not taking into account that all these verbs, called double⁴ in Hebrew and solid⁵ in Arabic grammars, lose in formation one of the two similar letters; as for instance: *zālal* 'to shake,' gives hiphil *hizzyl* 'to shake,' niphil *nazōl* 'to tremble,' and *zullūt* 'fear,' and *salzallin* 'twigs.' The primitive is certainly *zūl*, the form *salzal* gives therefore the full reduplication.

We must not forget that such stems as *zālal*, *parar*, *bazaz*, etc., are triliteralised forms of the primitive biliteral *zal*, *par*, *baz*, etc. As already noted, when the triliteralism was once adopted, the tendency was to force all words and formations into the symmetrical measure; the biliteral stems were strengthened by means either of prefixes or suffixes, or by repeating one of the primitive radicals. Sometimes the same word appears under different forms in each dialect; sometimes the various parallel forms are found in the same dialect. The

¹ It is to be noticed that the reduplicated forms of the Akkadian verb are generally translated in Assyrian by this pael.

² In Syriac the *palpel* often answers to the Hebrew pael. In Hebrew there are a few examples of *papel* at the time of the prophets (especially in Isaiah).

³ The XIIth Arabic form *iqhawbala* gives us an analogous formation, but the second element only of the verbal stem is doubled *hawbala*, no doubt for *bal-bala*.

⁴ *Kēpulyūm*.

⁵ *alfihū* 'la'sammū.

modifications do not alter the primitive meaning of the word; it is only by accident that a new meaning was developed and localised to a certain form, as in the case of the doublets of our modern tongues.

All this shows that in the ordinary pael we have a reduplication of the second part only of the trilateral stem *qab-bal* for *qa-bal-bal*, and this is confirmed by the already-mentioned few examples, as *še-har-har* and *ha-mar-mar*.¹ If we now remember what was said about the infixes, we see at once that we have in these words compounds of which the second element alone is reduplicated. The first element of *še-har-har*, reduplicated form of *še-har*, would be *še*, the same word, perhaps, as the shaphel formative,² as for the second we actually find it—*haraḥ* (primitively *har*) 'to burn' or 'to be burned,' especially in a moral sense, and the reduplicative form *har-har* 'to kindle,' also taken figuratively.³

It is difficult and sometimes impossible to find the primitive formative elements of all trilateral stems, so much so because the real trilateral roots have been by analogy treated as the other compound stems. The foregoing examples, however, suffice to show how the pael represents really a full reduplication. It may be added that, as we have seen, the first element of the so-called trilateral roots is generally either an auxiliary or a verb with a very simple meaning, the chief idea being therefore represented by the second element: it alone was repeated to express the reduplication.⁴

The pael voice gives to the stem an intensitive meaning, as does reduplication in all tongues.

The fact that the doubling of the middle or second radical represents the full reduplication gives us the key of the

¹ In Syriac there is even the secondary voice '*ethramrem*.'

² Often the *š* of the shaphel is changed into *s*, it is the case in Arabic, for *s* and *š* are confounded; in Syriac we find such forms as *šarheb*, and the secondary voice '*estangad*.'

³ Prov. xxviii. 22.

⁴ It has been noticed that certain weak verbs form in Hebrew the pael (that is the reduplicative voice) by repeating the last letter, this form is called pael, and that these same verbs in general are fully reduplicated in Syriac, the pael thus becoming a palpel. This seems to come from the fact that Syriac is a more decayed dialect than Hebrew, and had entirely lost conscience of the compound origin of the words, so one of their elements could no more be repeated alone to give the strengthened idea.

formation of the Assyrian mutative,¹ which is neither a present nor a future, as often asserted, but which seems merely to express an idea of continuity; for the Semites appear at no period to have had a clear way of expressing the fixed and precise time as understood in the Aryan tongues.² The simplest process of rendering this idea of continuity is to repeat the word twice; this is, as just seen, represented by the doubling of the middle radical; the tense thus formed would have clashed with the pael. To avoid the confusion a different vocalization was adopted, in most cases *u* or *i* for the aorist, and *a* for the mutative. It is rather difficult to perceive what guided the Mesopotamian Semites in this choice, but they may have, I am inclined to suppose, followed the analogy of the vocalization of the infinitive *a*, and the participle *i*; the infinitive expressing the action as in course or to be done, and the participle the action as done or being done at the time.³ This last force is the one expressed by the so-called permansive, which is really the participle with a weakened form of the pronominal suffixes, but always was of a limited use. It is no doubt under a foreign influence⁴ that the two Assyrian tenses, aorist and mutative, acquired a value, in regard to time, more definitive than the tenses of the other dialects. The reduplication represented therefore by the doubling of part of the word expresses to a certain extent a modification of time. It is important to notice that the Aryans have followed an exactly similar process, but by a reverse way of thinking; the reduplication represents among them the perfect⁵ as the action done altogether.

¹ This name, which is the first one adopted by our great Master, Hincks, has the advantage of expressing by a new term a formation unknown in the other Semitic dialects, and is for this reason used here; the name of present-future has, on the contrary, the defect of being that of a different form well known in Arabic, Hebrew, etc.

² It seems that only through foreign influence have the Semites ever been induced to precise the value of their tenses as regards time; that is why so many different methods have been used; in Assyrian reduplication, in Syriac use of auxiliaries, in modern Arabic addition of complementary words or of prefixes.

³ This is, I grant, shifting the difficulty, as it might be asked the reason by which the infinitive took *a* and the participle *i*.

⁴ The Mutative corresponds generally to a lengthened form of the verb in Akkadian; the use of the reduplicated Mutative is therefore due perhaps to foreign influence, but it cannot be said that its formation is.

⁵ See the paper by Alenzo Williams already quoted on the subject of the perfect.

It has been several times alluded to the process, nearly general in Assyrian and common in the other dialects, to express a long vowel by doubling the following consonant. This, which may appear surprising at first sight, has however happened in a great many other tongues, and the reason must be sought for in the character and influence of the accent on one part, and in the inherent pronunciation of a closed syllable.¹ To illustrate this and give many examples would be too long for the object of this paper; it is sufficient to say that the closed syllable by its very nature is followed by a silence or rest, and was therefore easily confounded with the accent,² but as the closed syllable is followed by a kind of hollow sound, and required a longer time to be pronounced, it was naturally confounded with the open long syllable, especially in Assyrian.

The accent originally had, however, in the Semitic tongues a character quite distinct from the doubling. It separated and disconnected the two primitive elements of a stem, and for this reason it was expressed sometimes by a long vowel. But the accent, the length, and what I would call the ictus³ (*i.e.* the silence resulting from a closed syllable), were soon confounded. So we see in Arabic the second and third

where it is demonstrated that all the Aryan strong perfects are due to reduplication of the verbal stem, as *lêgo* perfect *lêgi* for *lêlêgi*; such forms as *cucurri*, *pepuli*, etc., are uncontracted perfects. See also *Some Irregular Verbs in Anglo-Saxon*, by Francis A. March, in the Transactions of the American Philological Association, 1872, p. 110, and two other papers in the same publication.

¹ To be well treated this important question would require a whole paper. See S. Guillard, who studied the question as regards Arabic poetry, *Journal de la Société Asiatique*, série 7, vol. vii. p. 214; see also *Proceedings of the Society of Biblical Archaeology*, November, 1882.

² This is illustrated in many modern tongues. In Italian, for instance, to pronounce a closed syllable, as in *accento*, the first sound is uttered, and the mouth is then placed in position for the next sound, so that we have *âccècch'into*; the final consonant of the closed syllable, though the mouth is in position before the silence or rest, is pronounced only with the next syllable. The study of phonetics in the Cuneiform texts seems to prove that such must have been the Assyrian pronunciation. It may be added that in Italian the doubling of a letter is often, but not always used to express the accent on the preceding vowel. As a curiosity it is interesting to notice that through the character of the pronunciation of the double letters, they have been used in some tongues to express sometimes that the preceding vowel was long and sometimes that it was short (see E. Guest, *History of English Rhythms*, edited by W. W. Skeat, p. 104, *et. seq.*); we notice in early English the same confusion, as in the Semitic tongues, of accent, length, stress, etc.

³ This is the term used by M. S. Guillard, though he does not give perhaps to it exactly the same interpretation, but his views seem to practically confirm mine.

forms having exactly the same meaning, and the Hebrew grammarians considering the pœls as abnormal pael. The confusion was, however, the greatest among the Assyrians, and they confounded voices still distinguished in the other dialects. The apha was confounded with and assimilated to the kal, as we see verbs weak of the first radical appearing as biliteral, or even treated as being weak of the second; besides, when the first consonant is doubled, the form may be considered as niphala as well as apha. Similarly, if pœls existed in Assyrian, they were assimilated to the pael, *uqabbil* standing for *uqa'bil*. At the time of Teglaphalasar I. the pael was in fact written with a single middle consonant.

Passive by Vocalization.—It remains now to speak of the passive voices formed by change of vocalization. As shown by M. Renan this process of formation must have been in general use among the primitive Semites. In Arabic it has been preserved in full force; Hebrew has kept a pual and traces of hotpaal, pœal and hotpœal; Aramæan, having regularly applied the *t* voices to express the passive, lost naturally that formed by vocalization, but few traces are found in nouns and participles. In Assyrian there are no passive voices formed by vocalization, but, as in Aramæan, there are two participial forms in the kal, though not found for the same stem. The participle, without or with the pronominal suffixes, used as a verb (the auxiliary being understood), constitutes the so-called permansive; when the word expresses a passive meaning, it takes the vocalization *u*, as *lūmun*¹ 'being evil,' instead of the ordinary vocalization *sakin* 'placing.'

This formation of the passive by vocalization has been explained by the quality of the vowel-sound: *u*, said the grammarians, was chosen to express the passive force of the word on account of its obscure sound, the clearer and more primitive *a*-sound being reserved for the active.² It is, how-

¹ The forms *lūmun* and *lūmmu* are also found, but never *lamin*. This difference of vocalization as distinction of meaning has been noticed already by Dr. Oppert (*Grammaire*, p. 52); in the Aorist, active verbs taking *a*, and neuter *u*; the same verb is found with both according to the sense in which it is taken.

² This is the opinion of most scholars of the old school, Gesenius, Ewald and others.

ever, difficult to admit that this distribution was originally and deliberately made, and it is more probable that the vocalic distinction of the voices grew out of a formation the remembrance of which had been entirely lost.

In Egyptian we have a similar formation of passive by the *u* vocalization; it is difficult to be detected on the monuments on account of the system of writing, where the vowels are seldom expressed, but it is clearly shown by the Coptic.¹ If we now consider that in Egyptian the inner vocalization of a word was rarely expressed, we must admit a kind of attraction, and the scribe only wrote the final vowel, it being understood that the inner ones were the same, and hence we must admit the existence of a kind of vocalic harmony,² by which the inner vowels were assimilated to the final. In Egyptian the objective pronoun of the third person is often expressed by the semi-vowel *u*; it may be then supposed that the passive voice grew from the habit of placing the third person pronoun at the end of the word, to express that the verb was passive;³ the inner vocalization being afterwards sufficient to express the passive force of the verb, the final *u* was neglected, and the origin of the form forgotten.⁴

The Semitic passive voices may have originated from a similar process, though we have no means of proving it; there is, however, the third person pronoun *hu*, and I am inclined to think that this pronoun placed at the end of a verb to indicate that it was used passively, was little by little considered as forming part of the word, and having influenced the inner vocalization, was then dropped.

It may be objected that in Assyrian, as also in Arabic, the

¹ See de Rouge's Grammar.

² This vocalic harmony, contrary to the forward process of the Altaic tongues, proceeded backward from the final to the inner vowels. This seems to have been so clear to the Egyptian scribe's mind, that he took the habit of expressing the vowel outside the words; we have a striking example in the Semitic word *raïš* 'head,' which the Egyptian scribe transcribed *raï*, though this is no doubt a graphic phenomenon, and the vowels expressed outside must have been pronounced, as in Hebrew, between the two consonants.

³ There is something similar in the use of the reflective pronoun in French as *Il s'est coupé le doigt* for 'he has cut his finger.'

⁴ The same has happened in English where words altered by vocalic harmony have lost the influencing syllable, as in 'men,' plural of 'man.'

signs of cases are the ending *u* for the nominative, *i* for the genitive and *a* for the accusative, and that, if backward vocalic harmony existed originally in the Semitic tongues, the vocalization would be different for each case. My answer is that nominal flections were primitively independent words, no doubt demonstrative, but were, as all useless parts of words, soon weakened and lost, as are all flections in time,¹ so the primitive *umma*, *imma*, *amma* became the mimination *um*, *im* and *am* in Assyrian, where it was soon reduced to the vowel only,² and in the later Babylonian, the flections having entirely lost their real value, were neglected; the ending *u* is even kept when the word is grammatically in the objective case or regimen of a preposition.³ In spite of this final fusion of the flection with the noun determined, it formed primitively an independent word, as the definite article of Greek and of our modern tongues,⁴ and its vowels did not consequently affect that of the vocalization of the preceding word; when it was fused with it, the vocalic harmony was a process partly disused in the Semitic dialects.

This formation by vocalization was too delicate to be easily preserved, so it was soon lost in Assyrian, left only traces in Hebrew, and was preserved only among the Arabs, who lived sheltered from all foreign influence by their deserts,⁵

¹ In Latin the flections were lost at an early date in the vernacular tongue, and already in the classical language the accusative in *m* had become a mere mimination; in Italian it is entirely lost; it may be noticed that the article, which takes to a certain extent the place of the flection in the Latin tongues, has been derived from a demonstrative pronoun.

² Oppert, *Gramm. Assyrienne*, 2e édition, p. 13, *et seq.*

³ In the same way in Arabic the primitive flection weakened into a nunnation has disappeared entirely in the modern dialects.

⁴ In the modern European tongues, as French, Italian, etc., the definite article is really a mere head-flection denoting only gender; in some languages the article, as in Danish, appears as end-flection. Though it is inferred by this paragraph that the Semitic flection has grown out of a demonstrative pronoun, as did the articles in the Latin and Teutonic languages, the proof would require a development which would carry me beyond my present subject. I will only notice now that the full form *umma*, *imma*, *amma*, found in some old Assyrian texts, is also preserved in the paragogic or energetic future of the Arabic verbs under the form of *amma* and *anni*, the *m* being weakened into *n*, as the mimination is into nunnation.

⁵ See *Origin and Primitive Home of the Semites*, Journal of the Anthropological Institute, vol. xi. p. 423. In many instances Ethiopian seems to have retained this vocalic harmony to a greater extent than Arabic.

and in modern vernacular Arabic the formation is nearly lost.

An important fact to notice is that in the secondary voices, and indeed in all voices of the Assyrian verb—except Kal, which is considered as one compact word—the second part of the stem takes the vowel *u*; this would imply that the second part of the stem is then considered as one word, placed in a passive or objective position. If it would be rash to conclude at once that at the earliest period of the Semitic tongue the vocalic harmony existed in full force, we must however acknowledge that there is strong evidence to favour this theory, especially when we find vocalic harmony a process applied in a limited way in nearly all the dialects.¹

CONCLUSION.

Though it is hardly necessary to draw from this general survey conclusions which come out naturally from the facts collected, it may be desirable to give in a few lines a brief summary.

The verbal stems, originally the same as the appellative nouns, acquired their verbal force by means of auxiliary verbs placed before them; new verbs were formed by composition of two words—generally a verb and a noun, both being often abbreviated—the fusion of the two elements was not complete enough, so that they could not be separated. The auxiliary verbs—which became in time the voice affixes

¹ Especially in Assyrian, the only dialect where the vowels are clearly expressed; in the imperative, which gives the stem without addition, the vocalization is uniform, so we have accordingly the words *a*, *u* or *i*: *sabat*, *pigid*, *sukun*. There are in many cases examples of false concord caused by vocalic attraction, often the vocalization of the penultimate syllable is influenced by the case-ending, as in *salalti* for *salatti*, etc., and also cases of forward vocalic attraction, as in *eräsu* for *eräsu*, etc. In Arabic vocalic attraction is evident, to quote only one example, with the pronoun-suffixes. The vocalization in Hebrew has been too much tampered with by grammarians, commentators and text correctors, and Syriac is too much decayed a dialect, and has too much suffered under Greek influence to enable us to detect easily the laws of vocalization, it would require a long and laborious study. I can here only hazard an hypothesis, which appears to me justified at first sight. It may be added that the vocalic harmonism is a process which has, in spite of the Ougro-Altaic scholars, been more or less employed in all families of tongues, Teutonic, Latin, and others, and seems inherent to mankind.

—could be used indifferently with all stems, sometimes prefixed to the whole word when it was considered as a simple stem, sometimes prefixed to the second element of the stem when its composite character was still clear to the mind, and the idea represented by the second element alone wanted to be modified. Each component was distinguished, no doubt, by a different vocalization. The importance so given to the consonants accustomed the Semites to consider them as the very bones of the words, and from this conception grew the trilateralism. To arrive at this artificial system, the words were unconsciously classified, compounds treated as primitive, and others abbreviated. The auxiliaries used in combination, unequally distributed in the various dialects, became voice-formatives, and all words which did not enter in the mould were considered as of abnormal formation.

To have made this short study more complete, it would have been necessary to have given numerous examples of the various forms in all the dialects, but it would have then required quotations to prove the meanings and the force of each form; such developments would have extended the limit of my paper to a volume size. I therefore only attempted to give a sketch, where the general points are merely indicated, hoping that scholars will not condemn my theories before examining the texts and controlling the statements. If, however, my paper has no other effect than to induce other students to take up the subject, I shall consider that my trouble has not been spent in vain.

P.S.—In my former paper I have pointed out the similarity of the tense-formation in Egyptian and in the Semitic tongues; the same parallel, not to say identity, exists for the voice-formation. I left it purposely aside as being outside my paper, but I may be allowed to notice it briefly in this note, in order not to be accused of inventing forms to support a theory. I will follow Mr. Brugsch, and begin by the table of the verbal formation given in his grammar for a biliteral and trilateral verb:

Verb modified by reduplication.

Root <i>keb</i>	Root <i>kebeh</i>
<i>kekkeb</i>	<i>kebbeh</i>
<i>kekeb</i>	<i>kebehbeh</i>
<i>kebeb</i>	<i>kebehēh</i>
<i>kebek</i>	

By affixes.

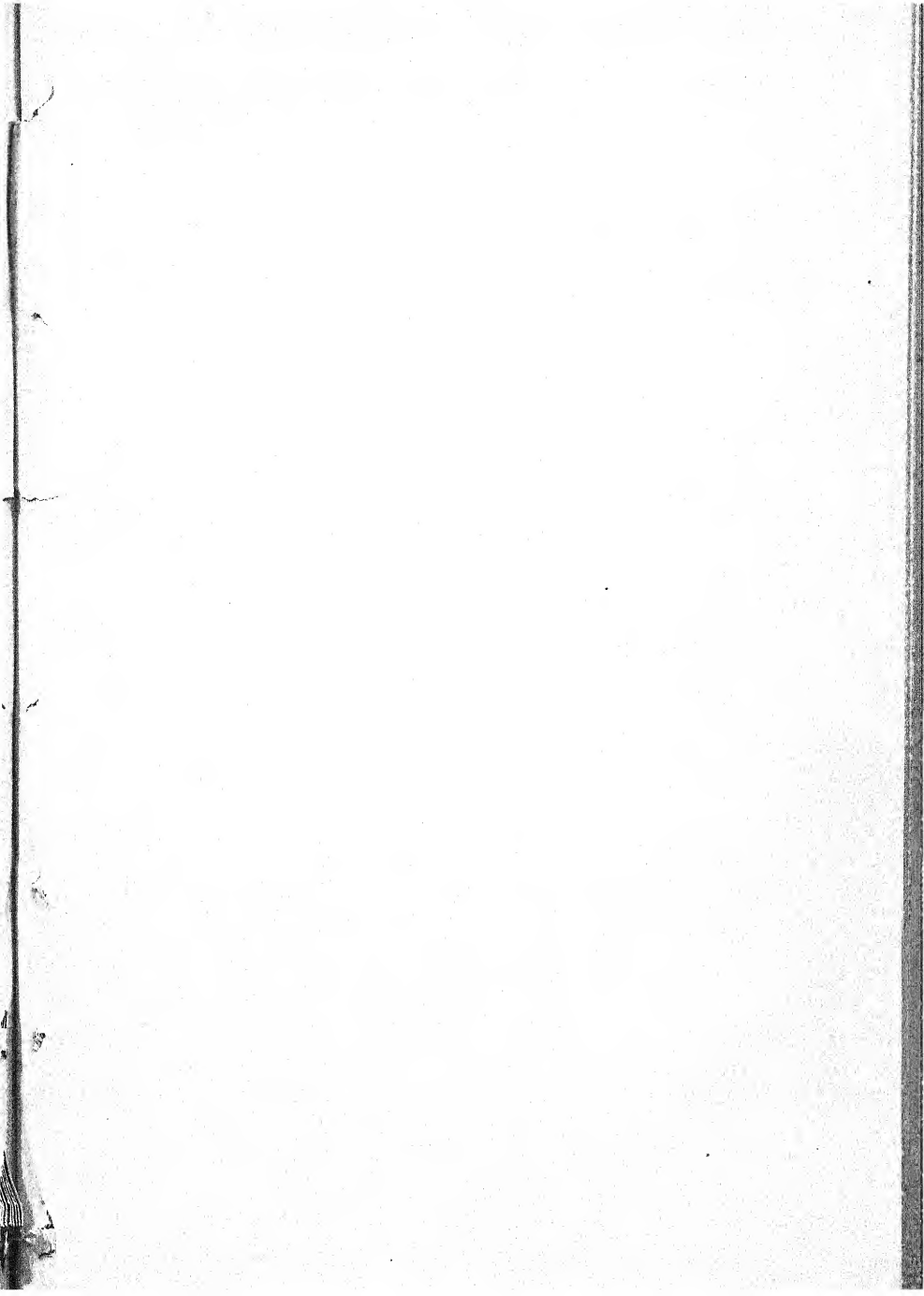
<i>se-keb</i>	<i>se-kbeh</i>
<i>ā-keb</i>	<i>ā-kbeh</i>
<i>ke-t-eb</i>	<i>ke-t-beh</i>
<i>ke-n-eb</i>	<i>keb-n-eh</i>

Most of these forms are found in the Semitic verbal formation. In *kekkeb* we have the palpel of the weak verbs—which answer to the Egyptian biliteral verbs,—in *kebbeh* the ordinary pael; in *kekeb* the papel and *kebehbeh* are rare forms preserved in few verbs, as *ha-mar-mar*; in *kebeb*, the regular Hebrew palel, and in *kebehēh*, the ninth Arabic form; *kebek* is no doubt a weakened fully reduplicated form; the doubtful examples found in the Semitic tongues are treated as trilateral.

The modifications by affixes are not less striking. We have in *se-keb* and *sekbēh* the shaphel, in *ā-keb* and *ā-kbeh* the aphal; in *ke-t-eb* and *ke-t-beh* the secondary or *t*-voices, where the *t* is inserted after the first radical; in *ke-n-eb* and *keb-n-eh* the tertiary voices of Assyrian, and the fourteenth and fifteenth forms of Arabic; it is worthy of notice that in the Egyptian trilateral verb the infix *n* is placed after the second radical as in Arabic.

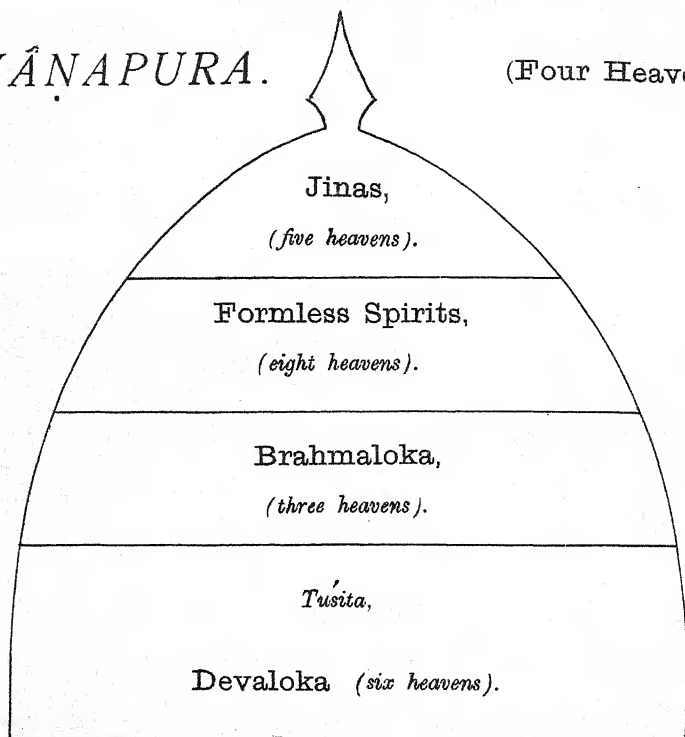
The other Semitic voices are also represented in Egyptian. The use of the auxiliary *ūn* and its weakened form *an* gives forms exactly parallel to the niphal; the auxiliary *tu* and weakened form *t* gives forms similar to the tiphel; also the auxiliary *ma* (weakened form *m*) for the miphel, and serves also, as in the Semitic tongue, to form names of agents and local forms.

Finally, the passive regularly formed by the inner vocalization *u* was in common use in Egyptian as in classic Arabic.



NIRVĀṆAPURA.

(Four Heavens).



THE HEAVENS

as conceived by

THE BUDDHISTS

of

CEYLON.

ART. XVII.—*The Buddhism of Ceylon.* By ARTHUR LILLIE,
Esq., M.R.A.S.

I PROPOSE in this paper to consider the claims of Cingalese Buddhism. What these claims are had better be stated at starting, from the writings of Dr. Rhys Davids, the most prominent advocate of these claims. We are, I think, indebted to him for priceless translations: but a linguist is not always infallible as a reasoner. Professor Beal has given us still more valuable linguistic contributions; and he has taken Dr. Rhys Davids to task. He says that the allegations that Buddha preached "atheism, annihilation, and the non-existence of the soul," are "more easily made than proved."¹

This sentence gives us Dr. Rhys Davids's main position.

He holds that Buddha preached pure atheism;² that he taught, also, "in a complete and categorical manner," that man has "no soul, nor anything of any kind that continues in any manner after death;"³ that this Buddhism is the only Buddhism known in the ancient sacred books of Ceylon—practically, the only reliable authorities on the subject.⁴ In the north, not earlier than the tenth century A.D., a theistic school arose who worshipped Âdi Buddha.⁵

I shall begin by considering the first two propositions, because it stands to reason that if I can show, from the Cingalese scriptures themselves, that Buddha believed in a God and the soul's immortality, the pretensions put forward

¹ Romantic History, Introd. p. x. ² Buddhism, p. 207.

³ *Ibid.* p. 99.

⁴ Letter to the *Spectator*, Feb. 25, 1882.

⁵ An obstacle in the way of this date is a colossal statue in Western India, erected to Âdi Buddhanâth. This must plainly have been erected before the Brahmin persecution had expelled the Buddhists from those parts. Also, very colossal statues are not erected to new gods, but gods long established. See Tod's Travels in Western India, p. 276.

in favour of the authority of the Cingalese books are on my side of the argument.

Buddha, as is well known, was a young prince born in Kapilavastu, a small Âryan kingdom in North Oude. His father, King Śuddhodana, wanted to resign in his favour; but the young man, cloyed with the idle life of the zenana, determined to become a religious reformer. I will here cite a passage from the *Lalita Vistara*, which gives us the prince's own version of the matter when he was visited by King Bimbisāra :—

“I have given up a powerful kingdom, putting aside earthly ambitions. To obtain calm I have become a Yogi. In the spring-tide of youth, when vigour and grace and beauty are its portion, I desired troops of women and much wealth. And in the middle of my kingdom I gratified my appetites.”¹

Buddha here calls himself a Yogi. What was a Yogi? The answer to this must be clearly understood, as it is the kernel of the question before us.

Swedenborg said that the secret of the Christian religion lay in the word “conjoining.” The mystic logos conjoined heaven and earth. A similar idea was the key-note of the old Indian religions. There was a realm of matter and material life. There was a realm of pure spirit. Earth, or what we call matter, was personified as Aditî, the mighty mother. Spirit was personified by Brahma the Ineffable. This latter, in Buddhism, became the transcendental Buddha, the “form of all things yet formless,”² the “omnipresent chief of the Munis,” the vajra âtma, the “eternal (literally diamond) being.”³ Aditî became Dharma or Prajñā, the universal mother. The “external and internal diversities belonging to all animate nature are produced by her.”⁴ I must mention, however, that this Buddhist terminology was borrowed from Brahminism. The intelligence of the Kosmos was called Buddhi in the Sāṅkhya philosophy.⁵

¹ *Lalita Vistara*, Foucaux's Translation, p. 230.

² Hodgson's Essays, p. 84. ³ *Ibid.* ⁴ *Ibid.*

⁵ Colebrooke's Essays, vol. i. p. 242.

And the greatest of Indian epics, the Mahābhārata, is nothing more than an account of an incarnation of Dharma on earth, in the form of the hero, Yudhishtira. Yoga means "conjoining," and so does the word Saṅgha of the Buddhists. The Yogi, when he had mastered his lower life, conjoined the realms of Aditī and the realms of Brahma. He was one with Brahma. As Yājnyavalkya puts it, he effected the "union of the living with the supreme soul."

It is necessary now to say a few words on the way in which this union with Brahma was supposed to be attainable. From the date of the Rīg-Veda, the recluse retired to a forest to perform tapas. In every chapter of the Mahābhārata these hermits swarm. Many treatises tell us how this Yoga is to be practised. The Yogi is to sit cross-legged, with his back perfectly erect. He must try and stop his breathing altogether. By and by visions are supposed to come to him, and the secrets of the invisible spheres. A curious feature, perfectly unintelligible to modern thought, is the mode in which the god idea changes in his mind during the process. At first the anthropomorphic god peoples his dreams. Then he broods on the symbols alone, the chakra, the gādā, the śaṅkha, etc. And by and by the abstract idea can be grasped. He becomes one with Brahma.

A pregnant question here arises: How did Buddha view all this? The answer of Dr. Rhys Davids is unhesitating. He swept it clean away, God idea, soul idea, the after life. In the most ancient Buddhism, that of Ceylon, the dhyāna, the iddhis, were "relegated to the region of legend and fairy tale."¹ It "despised dreams and visions."² Sweeping negation was Buddha's "answer to the mystics." In short he was Comte the Positivist, born two thousand four hundred years before his time. Buddhism, instead of starting with a cargo of Brahminism and throwing much of it overboard during the voyage, set sail in an empty ship, and all Brahmin accretions have been taken on board since.

¹ Buddhist Suttas, p. 208.

² Buddhism, p. 177.

A priori, there are difficulties in the way of this view. Here is a statue of Buddha.¹ In every Buddhist temple there are hundreds like this. Each is sitting in the attitude prescribed by the Brahmins for practising Yoga. All—even the rudest—manage to give the calm dreaminess of Yoga-nidrâ. Every Buddhist idol is seeking dhyâna. And every Buddhist Śramaṇa has given up father, mother, wealth, and worldly joys; and he mumbles his mantras, a hundred thousand a day,² to gain the very dhyâna that his prophet sought to “relegate to the region of fairy tale.” And I must say that when I read the Doctor’s translations I am very much puzzled. The ideal northern Buddhist, in his view, is a man of many superstitions—a miracle-monger. The ideal southern Buddhist is what we should call a scientific freethinker. The Northerners have six Iddhis, or magical powers, which they believe to be acquired by the recluse when the divine vision is attained. I will copy them down from the Lotus of Dharma:—

1. The ascetic must be able to rise into the air.
2. He must rain down fire from his body.
3. He must rain down floods of water from his body.
4. He must make his body expand indefinitely, and then grow infinitely little.
5. He must make it disappear and return to earth.
6. He must rise again into the sky.

But, when I turn to the literature of the Southerners, I find six iddhis likewise:—

1. The ascetic, being one, must become multiform.
2. He must become invisible.
3. He must pass through walls, mountains, solid ground, as if through water.
4. He must be able to walk on the water without dividing it.
5. He must be able to travel cross-legged through the sky.
6. He must be able even to reach the world of Brahma.

¹ A statue of Buddha was exhibited when this paper was read before the Royal Asiatic Society.

² Schlagintweit, *Buddhism in Tibet*, p. 54.

Really, the only difference between the freethinkers of the south and the miracle-mongers of the north that I can see, is that the Southerners fly through the air "cross-legged," and the Northerners without crossing their legs. I must mention that these iddhis are given to us by Dr. Rhys Davids in a Sûtra written, in his view, as early as the fourth century B.C.¹ They are detailed to us by the freethinker Buddha himself.

Some will perhaps say: "Could we only conjure up Buddha himself for five minutes, and cross-examine him about union with Brahma!" Those who say this will be surprised to hear that we can practically cross-examine Buddha on this point. They will be still more surprised to hear that it is through the literary activity of Dr. Rhys Davids in giving us the Tevigga Sutta² that this is possible. And most surprising is the fact that this Sûtra scatters to the four winds all notions that Buddha denied an intelligent, eternal God.

When the great Tathâgata was dwelling at Manasâkata in the mango grove, some Brahmins learned in the Three Vedas came to consult him on this very question of Union with the eternal Brahma. They asked if they were on the right pathway towards that Union.

Buddha replies at great length.

He suggests an ideal case. He supposes that a man has fallen in love with the "most beautiful woman in the land." Day and night he dreams of her, but he has never seen her. He does not know whether she is tall or short, of Brahmin or Śûdra caste, of dark or fair complexion. He does not know even her name. The Brahmins are asked if the talk of that man about that woman be wise or foolish. They confess that it is "foolish talk."

Buddha then applies the same train of reasoning to them. The Brahmins versed in the three Vedas are made to confess that they have never seen Brahma, that they do not know whether he is tall or short or anything about him, and that all their talk about Union with him is also foolish talk.

¹ Buddhist Suttas, p. 214; also Preface, p. x. ² Buddhist Suttas, p. 167.

They are mounting a crooked staircase, and do not know whether it leads to a mansion or a precipice. They are standing on the bank of a river and calling to the other bank to come to them.

Now it seems to me that if Buddha was the uncompromising teacher of Atheism that Dr. Rhys Davids pictures him, he has at this point an admirable opportunity of urging his views. The Brahmins he would of course contend know nothing about Brahma, for the simple reason that no such being as Brahma exists.

But this is exactly the line that Buddha does *not* take. His argument is that the Brahmins know nothing of Brahma because Brahma is purely spiritual and they are purely materialistic.

Five "Veils" he shows hide Brahma from mortal ken. These are:

1. The Veil of Lustful Desire.
2. The Veil of Malice.
3. The Veil of Sloth and Idleness.
4. The Veil of Pride and Self-righteousness.
5. The Veil of Doubt.

Buddha then goes on with his questionings:

"Is Brahma in possession of wives and wealth?"

"He is not, Gautama!" answers Vāsīttha the Brahmin.

"Is his mind full of anger or free from anger?"

"Free from anger, Gautama!"

"Is his mind full of malice or free from malice?"

"Free from malice, Gautama!"

"Is his mind depraved or pure?"

"It is pure, Gautama!"

"Has he self-mastery or has he not?"

"He has, Gautama!"

The Brahmins are then questioned about themselves:

"Are the Brahmins versed in the three Vedas in the possession of wives and wealth or are they not?"

"They are, Gautama!"

"Have they anger in their hearts or have they not?"

"They have, Gautama!"

"Do they bear malice or do they not?"

"They do, Gautama!"

"Are they pure in heart or are they not?"

"They are not, Gautama!"

"Have they self-mastery or have they not?"

"They have not, Gautama!"

These replies provoke of course the very obvious retort that no point of union can be found between such dissimilar entities. Brahma is free from malice, sinless, self-contained, so of course it is only the sinless that can hope to be in harmony with him.

Vâsistha then puts this question:

"It has been told me, Gautama, that the Śramaṇa Gautama knows the way to the state of Union with Brahma?"

"Brahma I know, Vâsistha!" says Buddha in reply, "and the world of Brahma and the path leading to it!"

The humbled Brahmins learned in the three Vedas then ask Buddha to "show them the way to a state of Union with Brahma."

Buddha replies at considerable length, drawing a sharp contrast between the lower Brahminism and the higher Brahminism, the "householder" and the "houseless one." The householder Brahmins are gross, sensual, avaricious, insincere. They practise for lucre black magic, fortune-telling, cozenage. They gain the ear of kings, breed wars, predict victories, sacrifice life, spoil the poor. As a foil to this he paints the recluse who has renounced all worldly things, and is pure, self-possessed, happy. To teach this "higher life" a Tathâgata "from time to time is born into the world, blessed and worthy, abounding in wisdom, a guide to erring mortals." He sees the universe face to face, the spirit worlds of Brahma and Mâra the tempter. He makes his knowledge known to others. The houseless one instructed by him "lets his mind pervade one quarter of the world with thoughts of pity, sympathy, and equanimity; and so the second, and so the third, and so the fourth. And thus the whole wide world, above, below, around, and everywhere, does he continue to pervade with heart of pity, sympathy,

and equanimity, far-reaching, grown great, and beyond measure.”¹ “Verily this, Vāsitha, is the way to a state of Union with Brahma.” And he proceeds to announce that the Bhikshu or Buddhist Beggar, “who is free from anger, free from malice, pure in mind, master of himself, will, after death, when the body is dissolved, become united with Brahma.”²

The Brahmins at once see the full force of this teaching. It is as a conservative in their eyes that Buddha figures, and not an innovator. He takes the side of the ancient spiritual religion of the country against rapacious innovators.

“Thou hast set up what was thrown down!” they say to him. In the Burmese life he is described more than once as one who has set the overturned chalice once more upon its base. In the Brāhmaṇa dhammikasutta this very question of the archaic Brahmin religion is discussed at full length; and Buddha announces that his mission is to restore this Brāhmaṇa dhamma.³

I own I am a little puzzled at the attitude assumed by Dr. Rhys Davids in the presence of the Tevigga Sutta.

The Sūtra is one of the original Pāli Suttas which Dr. Rhys Davids considers the paramount authorities on early Buddhism. One of two inferences seems inevitable. Either the pretensions claimed for these Sūtras or the charge of atheism must be withdrawn. Dr. Rhys Davids will do neither. Oddly enough too, he confuses Brahma and Brahmā. All through the Sūtra he talks of Union with Brahmā; which was what the Yogi never sought to obtain. And this is the more astonishing because in a foot-note he lets us see that the Pāli writer used the word Brahma.⁴

Almost the first lesson to the tyro in Indian mythology is that you are not to confuse Brahma and Brahmā. Brahmā is the anthropomorphic god with four heads, who rides on a goose. Brahmā gets drunk and tries to seduce his daughter.⁵ Brahmā had one of his heads knocked off in a fight with

¹ p. 201.

² p. 203.

³ Sutta Nipata, Fausböll, p. 47.

⁴ Foot-note, Buddhist Suttas, p. 168.

⁵ See Ward, vol. ii. p. 30.

Śiva. Brahmâ, Śiva and Vishṇu are worshipped in the month of Mâgha, and then their earthen images are flung into the river. Brahma, on the other hand, is the formless, pure, pervading, eternal, passionless God. An extract from the Muṇḍaka Upanishad of the Atharva Veda may here throw a light on Brahma and union with him.

“He is great and incomprehensible by the senses, and consequently his nature is beyond human conception. He, though more subtle than vacuum itself, shines in various ways. From those who do not know him he is at a greater distance than the limits of space, and to those who acquire a knowledge of him he is near; and whilst residing in animate creatures is perceived, although obscurely, by those who apply their thoughts to him. He is not perceptible by vision, nor is he describable by means of speech, neither can he be the object of any of the organs of sense, nor can he be conceived by the help of austerities or religious rites; but a person whose mind is purified by the light of true knowledge, through incessant contemplation perceives him the most pure God. Such is the invisible Supreme Being. He should be seen in the heart, wherein breath consisting of five species rests. The mind being perfectly freed from impurity, God, who spreads over the mind and all the senses, imparts a knowledge of himself to the heart.”¹

Whether or no Dr. Rhys Davids is inspired by Comtist sympathies I cannot say. Certainly one great obstacle to viewing Buddha as Comte born two thousand years too soon is the doctrine of Karma. The Buddhists took over from the Brahmins the idea that a man's actions in one existence regulated his fate in subsequent births. My idea is that it was invented to quiet the minds of the lower castes, when contemplating the superior temporal and spiritual advantages claimed by the Brahmins. Certainly the continued life of the individual during the new births was the key-note of the idea. A man could not get rid of the consequences of immorality, until, by a great effort of

¹ Rammohun Roy, Translation of the Vedas, p. 36.

self-restraint, he had reached the bodhi or emancipation.

Of this doctrine Dr. Rhys Davids gives a version which differs from any other that I have ever read. He affirms that the Buddhists teach that each individual is annihilated at death, but that the causation of his deeds is handed on to another distinct individual. Thus, if A leads a thoroughly wicked life, B will take up the remorse and moral deterioration that result from A's misdeeds. If B conquers his fate and reforms, C will be happy, because B neutralised the errors of A. I shall not dispute Dr. Rhys Davids's assertion that this is an "incomprehensible mystery"; but I must say that not one tittle of evidence is brought to support it. And this new presentment of the doctrine of Karma necessitates a new presentment of the Buddhist ideas about the Five Skandhas. Skandha means body, and these Skandhas are bodily aggregations, form, sensation, mental perception and so on. "Upon death," says Colebrooke, writing on these Skandhas, "ensues a departure to another world. That is followed by return to this world, and then the course of error (*Avidyā*) with its train of consequences recommences."¹ These Skandhas, like Karma, are not dissolved until the acquisition of the Bodhi.

But Dr. Rhys Davids, citing Colebrooke, but neglecting to study him, has put forth a theory that at death, annihilation of the individual takes place. And in proof of this he cites a sutta which seems to me to overthrow his theory completely. Buddha tells his disciples that *taṇhā* (the mystic "thirst"), which binds men to existence, has been cut off in his case, but his body still remains, and for a short time will be seen by men and devas and then utterly disappear. This proves exactly what I urge. Buddha had then attained the Bodhi. In the view of all Buddhists, both in the south and north, his individuality had visited earth, (and, I may add, refuted Dr. Rhys Davids) exactly five hundred and fifty times.²

Mr. Hodgson's Buddhist Amirta Nanda Bandya says

¹ Essays, vol. i. p. 397.

² Hodgson, p. 96; Bigandet, p. 331.

distinctly that the individual merely changes body after body until his karma is ended by Bodhiñāna. He says also that jiva, the soul, is immortal.¹ And if this is pronounced northern Buddhism, Migettuwatte, in his famous controversy in Ceylon, and the heads of viharas when questioned by the Dutch governor, said the same thing.² Spence Hardy, in his chapter on the Buddhist ontology, though he talks about the Skandhas "breaking up" at death, shows clearly that this does not mean cessation of the individual's existence, for in a dialogue between Subha and Buddha, the latter is made to say :

"A woman or a man takes life. The blood of that which they have slain is continually on their hands. They live by murder. They have no compassion on any living thing. Such persons, on the breaking up of the elements (the five khandas), will be born in one of the hells, or if on account of the merit received in some former birth they are born as men, it will be of some inferior caste."³

Here is another of his citations, drawn from the history of Anguli Māla :—

"So long as existence continues, the effects of Karma must continue; and it is only by the cessation of existence that they can be entirely overcome. When any priest attains therahatship, he cuts off the consequences of demerit."⁴ Therahatship is the Bodhi.

To a modern Positivist the coffin of death locks up for ever form, sensation, the brain and its dreams. But the Buddhist denies that even bodily shape (rupa) is affected by death. At once the ego goes off to regions of temporary reward or penitence. And in the Lalita Vistara even the Bodhi, or great spiritual birth, only changes the "false Aggregations" for the "Aggregations of the True."⁵ A

¹ Hodgson, pp. 44, 45.

² See Romantic History, Introd. p. x; Buddha and Early Buddhism, p. 125.

³ Manual, p. 463.

⁴ Manual, p. 261. As opposed to Dr. Rhys Davids, see also Oldenberg, Buddha, pp. 244, 255, etc.; Burnouf, Introduction, pp. 513; Childers, Pāli Dictionary, *sub voce* Karma and the Khandas; Schröter, Bhotanta Dictionary; Beal, Romantic History, Introduction, p. x.

⁵ Lalita Vistara, p. 337.

glance at the Ceylon heavens, as given by Upham,¹ makes this plain. Here (Pl. 1) is *Tuṣita*, the highest heaven that a soul can reach before attaining the Bodhi or emancipation. Above it are the three heavens of the *Brahmaloka*, that he must pass through before he loses his form (*rûpa*). And loss of form plainly did not imply loss of individuality when these heavens were partitioned out, for the soul has to pass through the five heavens of the *Jinas* or *Buddhas* before he reaches *Nirvânapura*, which is in four compartments, an idea scarcely consistent with the theory that it means annihilation.

I now come to Dr. Rhys Davids' crucial piece of evidence. It consists of three speeches attributed to Buddha, and to be found in one of the "original Pali Suttas" of the "Southern Canon." This sutta is entitled the *Brahmajâla Sutta*. The three speeches may be considered the backbone of Dr. Rhys Davids's many lectures, treatises, magazine articles, etc., all of which, on the strength of them, charge Buddha with denying a life after death. As so much importance is attached to the speeches, I will give them at length.

"Priests, among these *Samanas* and *Brahmins* are some who hold the doctrine of future conscious existence, and in sixteen modes teach that the soul consciously exists after death. But the teaching of these *Samanas* and *Brahmins* is founded on their ignorance, their want of perception of truth, their own personal experience, and on the fluctuating emotions of those who are under the influence of their passions."

"Priests, among these *Samanas* and *Brahmins* are some who hold the doctrine of future unconscious existence, and in eight modes teach that the soul exists after death in a state of unconsciousness. But the teaching of these *Samanas* and *Brahmins* is founded on ignorance, their want of perception of the truth, their own personal experience, and on the fluctuating emotions of those who are under the influence of their passions."

¹ History of Buddhism, p. 74.

"Priests, among these Samanas and Brahmins are some who hold the doctrine of a future state of being neither conscious nor yet unconscious, and in eight modes teach that the soul will hereafter exist in a state between consciousness and unconsciousness. But the teaching of these Samanas and Brahmins is founded on ignorance, their want of perception of truth, their own personal experience, and on the fluctuating emotions of those who are under the influence of their passions."

Plainly, says the Doctor, conscious existence after death, unconscious existence after death, and existence in a state that is "neither conscious nor unconscious," are here flatly denied.

"Would it be possible," he adds triumphantly, "in a more complete and categorical manner to deny that there is any soul, anything of any kind which continues to exist in any manner after death?"

Now, considering the enormous superstructure that has been built upon this sūtra, the first remark that I have to make is:—Has Dr. Rhys Davids read it? I will continue the passage quoted. It gives us a fourth speech of Buddha on the same subject:—

"Priests, among these Samanas and Brahmins are some who affirm that existence is destroyed, and who, in seven modes, teach that existing beings are cut off, destroyed, annihilated. But the teaching of these Samanas and Brahmins is founded on their ignorance, their want of perception of truth, their own personal experience, and on the fluctuating emotions of those who are under the influence of their passions."¹

"Would it be possible," I might here say, parodying the emphasis of Dr. Rhys Davids, "in a more complete and categorical manner to affirm that existing beings are never annihilated?" But the subject is very much past a joke. The Brahmajāla or net for the Brahmins is constructed to catch every conceivable fish. It belongs to what we

¹ Sept Suttas Pālis, v. p. 107 (Grimblot).

may call the Evangel of Contradiction, the decaying age of Buddhist paradox, and hair-splitting. Buddha is brought on the scene to contradict and condemn every form and aspect of every conceivable question. Burnouf remarked this long ago; and Buddhaghosa praises these "conflicting" judgments as being good for Vinaya (discipline).¹ If Dr. Rhys Davids considers this Sûtra a final authority, I may mention that in many passages the word "soul" is mentioned;² and from Buddha's own mouth the doctrine of re-birth is distinctly affirmed.³ He states, moreover, that some souls after death will go to that portion of the Brahmaloка which is never destroyed by fire.⁴

I have more than once cited the *Lalita Vistara* as an authority. It may be answered that Dr. Rhys Davids considers it no authority at all. "The best authority we have," he says, is the biography that he has translated for us in his 'Birth Stories,' which, he says, is almost word for word the same as Buddhaghosa's life of Buddha in the *Atthā Kathā*. Preference is claimed for this Cingalese life on the ground that it is briefer and more free from marvel than the other biographies, points that denote an earlier scripture. I have considered this question at length in my "Buddha and Early Buddhism." I can only here say that Buddhaghosa admits that his biography is merely a condensation of the *Mahāpadāna Sutta*. Dr. Rhys Davids's biography is also confessedly an abridgment from three other books, the *Pabbajā Sutta*, the *Digha Nikaya* and an old Cingalese Commentary.⁵ This disposes of any claims advanced on the score of greater brevity, fewer marvels, etc.

In the monuments of Aśoka the Epic of the Muni (*Muni-gatha*) is mentioned. All the lives of the teachers were no doubt founded on this. The value of the *Lalita Vistara* in my view is that its many editors have adopted the principle of expansion rather than contraction. We are thus in a better position to judge which was the earlier matter.

¹ Turnour, *Jour. Beng. Asiat. Soc.*, vol. vi. p. 524.

² *Sept Suttas Pālis*, pp. 72, 73, etc.

³ *Ibid.* p. 76. ⁴ *Ibid.* p. 78. ⁵ *Birth Stories*, pp. 78, 82, 89.

Some of the Pāli Sūtras are so important that I should like nothing better than to see even the somewhat exaggerated pretensions of Dr. Rhys Davids in the matter of their pedigree and authenticity established. I am afraid this is scarcely possible. The whole story of Buddhaghosa and his "compilings" is very suspicious. Buddha died miserably under a tree. His early disciples were required to sleep under a tree every night, and never twice under the same. And yet we are required to believe that three months after his death a pompous Convocation of five hundred Monks, "defined and authenticated" thirty-four tractates, with their long-winded commentaries to boot, a literature as great almost as four of our Bibles, "with a degree of precision which fixed even the number of syllables of which it should consist."¹ This, it may be added, was at least 200 years before the letters of the alphabet were introduced into India. The second Convocation met B.C. 443. The third assembled at Patna B.C. 309, when Áśoka was King. The last two Convocations "reaffirmed" the Canon, a work of supererogation, if every syllable had already been irrevocably fixed. I am afraid we will have to agree with Professor Max Müller, that the evidence on which we have to rely in the matter of the Cingalese Canon is not what would convince "those who are accustomed to test historical and chronological evidence in Greece and Rome."² It must be remembered that at the date when the third Convocation, under the guidance of King Áśoka, was "reaffirming" the voluminous Canon, that monarch, in apparent ignorance of the circumstance, caused another list of the chief Buddhist holy books to be inscribed on the Bairat rock. This list consists of seven books, and it differs *in toto* from the Cingalese list. I stated this in my work, "Buddha and Early Buddhism," and an article in the *Saturday Review*, attributed with justice or injustice to Dr. Rhys Davids, made the following comment upon it.

"His argument from the titles on the Áśoka monuments

¹ Turnour, Journ. Beng. Asiat. Soc., vol. vi. pp. 505, *et seq.*

² Sacred Books of the East, vol. x. p. x.

cannot be seriously urged when we know that they are rather descriptions of contents than fixed titles, and may be easily varied.”¹ I am a little puzzled as to the exact meaning of these words. If it is meant that each title means a group of books, and not a volume, this, I think, can be quite disproved. The *Munigatha*, in the only form that Dr. Rhys Davids sanctions, has, he tells us, brevity for its most conspicuous merit. The “Admonition to Râhula concerning falsehood uttered by our Lord Buddha” has been restored to us, thanks to the activity of Professor Beal. It occupies two pages of the Chinese *Dhammapada*.² The “Supernatural Powers of the Masters” and the “Terrors of the Future” can scarcely be considered generic titles of large classes of the original Pâli volumes by the Doctor, who holds that those volumes ignore “Supernatural powers” in “Masters,” and the “Future” altogether. The long-winded tractates on Vinaya in Ceylon may have been considered a “Summary of Discipline” in those days. It all depends upon the meaning then attached to the word “Summary.”

I now come to “The Question of Upatishya.” Upatishya was one of the names of Śâriputra, Buddha’s chief disciple. He was a Brahmin seeking vainly amongst his teachers assurance of immortal life (*amṛita*); and he put to each this question :

“Master, what is the method of your doctrine? What advice do you give to your pupil? What is the fruit of an honest life?”

Hearing from an ancient Rishi that Buddha had the knowledge of *Amṛita*, he and Maudgalyâyana, Buddha’s other chief disciple, went off to him. Buddha’s answer to the question of Upatishya is recorded in leaf 41 and leaf 50 of the first book of the *Dulvâ* in Csoma Körösi’s *Analysis of the Canon of Tibet*.³ The question of Upatishya and the answer to it constitute, not a library of volumes, but two brief pages of a volume.

¹ *Saturday Review*, Nov. 5, 1881. ² p. 142.

³ *Asiatic Researches*, vol. xx.

Dr. Oldenberg has suggested another argument, but it seems to me to tell still more completely against the Cingalese school. It is, that the scriptures which Aśoka ordered his monks and nuns to learn by heart are merely "passages."¹ Passages of what? The memory of the monk was the only vehicle by which Buddhist scriptures—until the date of Wattaganini, King of Ceylon, B.C. 104 to B.C. 76—were handed down.² And if this scanty little fragment was all that the monks were to learn, how has the colossal Canon of Ceylon, in length about as large as four of our bibles, come down to us?

I should like very much to agree with Dr. Rhys Davids on the subject, and have overwhelming evidence in favour of such Sūtras as the Tevigga Sutta, but there are many difficulties in the way. For supposing we admit that the titles on the Bairāt rock refer to groups of books, not volumes, they still demolish the pretensions of Dr. Rhys Davids, because two official classifications of the scriptures of the kingdom differing *in toto* could scarcely have been drawn up simultaneously. We must be content to conclude that both in north and south we have some archaic Buddhism and much falsification. And it is by stimulating the study of the northern literature, and not, as is the present custom, by discouraging it, that comparisons may be made, and many valuable facts elicited. I will give an instance of what I mean. I alluded in a paper read here last summer, to a litany from Nepāl, the Sapta Buddha Stotra. In it, the "Seven Buddhas supreme over all" are invoked in succession, that by their aid the worshipper may obtain "emancipation." I will give two of these addresses:

"I adore Jinendra, the consuming fire of sorrow, the treasure of holy knowledge, whom all revere, who bore the name of Vipāświ, who was born in the race of mighty monarchs in the city of Bandumati, who was for eighty thousand years the preceptor of gods and men; and by whom endowed with the ten kinds of power the degree of Jinendra was obtained at the foot of a Pātala tree."

¹ Buddhism, p. 134, note.

² Mahāwanso, Chap. 33.

This is the praise of Śākya Muni :

"I adore Śākya Siṃha the Buddha, the kinsman of the sun, worshipped by men and gods, who was born at the splendid city of Kapilapura, of the family of the chief of the Śākya Kings, the life of which best friend to all the world lasted 100 years. Having speedily subdued desire, unbounded wisdom was acquired by him at the foot of the Aswattha tree."¹

In Ceylon we have this litany also, but another story is told of it. You shall compare the two. It is recorded that when Buddha was on the mountain called the Eagle's Peak near Rājāgriha, a demon named Vessavana visited him and gave him a charm to be recited by his male and female disciples as a "defence" against all the demons of the universe. I will cite a few paragraphs.

"Adored be the all-seeing and glorious Vipassi (Vipassissa nam).

"Adored be Vessabhū, the subjector and destroyer of the passions.

"Worship Gautama the Conqueror !

"We worship Gautama the Conqueror, the Buddha endued with all knowledge."²

Here we catch Dishonesty in his studio. The Litany has been explained away to suit the agnostic school. The words "Adoration to Buddha" by a silly story have been transferred from a prayer used after his death, to an address made to him whilst he was alive. The Litany was well known to the people, and therefore could not be entirely obliterated. The Stūpa of Bharhut, as I have shown, authenticates this Litany by showing that the early temples had shrines for their seven Buddhas with marble trees corresponding to the list in the Stotra.

Although more wild theories are abroad concerning Buddhism than any other old creed, it has oddly enough the most trustworthy archives of all. Within 250 years of the death of the founder, Aśoka carved his credo on the rocks :

¹ Asiatic Researches, vol. xvi. p. 454.

² Sept Suttas Pālis, Grimblot, p. 323.

"Confess and believe in God, who is the worthy object of obedience. For equal to this belief I declare unto you, ye shall not find such a means of propitiating Heaven."—First Dhauli Edict (Prinsep).

"Among whomsoever the name of God resteth, this verily is religion."—Edict, No. VII. (Prinsep).

"I have appointed religious observances that mankind having listened thereto shall be brought to follow in the right path, and give glory to God."—*Ibid.*

No cavilling can explain away the word *Isâna*. To the Brahmin of *Asoka's* time it meant the Supreme. And on the subject of eternal life of the individual the King is equally explicit.

"I pray with every variety of prayer for those who differ with me in creed, that they, following after my example, may with me attain unto eternal salvation."—Delhi Pillar, Edict VI. (Prinsep).

"May they, my loving subjects, obtain happiness in this world and in the next."—Burnouf.

I leave you to choose between this teaching and the grotesque Evangel of Contradiction.

The first, without any of the sinister apparatus of propaganda, the faggot, the axe, the scimitar, won India, and the second lost it.¹

¹ Owing to a press of matter there has been some delay in printing this paper, and intermediately I have discovered the epoch of the rise of Agnostic Buddhism. It was first made official under King *Kaniška* (A.D. 10). In a little book, "*The Popular Life of Buddha*," published by Messrs. Kegan Paul & Trench, I have given a detailed account of this change of front.

ART. XVIII.—*The Northern Frontagers of China.* Part
VI. *Hia or Tangut.* By H. H. HOWORTH, Esq.,
F.S.A., M.R.A.S.

IN tracing out the very crooked story of the history of Central and Eastern Asia, in which we have to deal with a succession of empires founded by a number of races, which have necessarily overrun its more desirable areas, there is only one method of inquiry which seems to be at once safe and fertile. This is to commence with the latest revolutions. To gradually unravel the tangle into which the story has been twisted, by first understanding the latest changes, about which we have abundant evidence, and then to work back to that earlier and more obscure period which must always have a great interest and romance for those who speculate on the origin and early history of our race. This is the method I have ventured to adopt in the series of papers on the Northern Frontagers of China, which I have been permitted, by the favour of the Royal Asiatic Society, to commence in the pages of its Journal, and in which I hope, if allowed, to pass in review the different races who have dominated over Central Asia and China from the earliest times.

The latest of these race revolutions was the conquest of China by the Manchus in the beginning of the seventeenth century. We have examined the earlier chapters of their history, and have traced them back lineally to the famous Kin or Golden Tartars of the twelfth century.

Going back in time the next important change of this kind was wrought by the Mongols. We have traced them also to their mother-stock in the Shi wei, and in a more ambitious and more recent work have given their history in detail. The Mongol conquest, as I have elsewhere shown,

was a great integrating power in Asiatic history, and before that conquest that history has to deal with several lines of distinct tradition rather than with one. When the Mongols first became powerful under Chinghis Khan, Eastern and Central Asia was divided into four considerable empires. 1. The Kin or Golden Tartars occupied and ruled the six northern provinces of China. As I have said, they were the ancestors of the Manchus. In the last paper of this series I examined their history from the time when they broke loose from the power of the Khitans, and showed that they were descended from the Moho, the ancient inhabitants of Manchuria.

2. Central Asia, including the greater part, if not all, of the Turkish tribes north of the Jaxartes, was subject to the empire of the Kara Khitai. Its history we have also traced from its foundation, at the beginning of the twelfth century, by an offshoot of the Imperial house of the Khitan Tartars.

The third and fourth empires lay to the south of these, that ruled by the Sung dynasty controlled Southern China, and was in every respect a purely Chinese empire, and outside the limits of the present inquiry. The fourth empire was that known to the Chinese as Hia, and forms the subject of the present paper.

The history of Hia has been strangely neglected, and consequently misunderstood. So far as I know it has never yet been told in a continuous narrative, and this attempt is the first one in this field. I have said it has been misunderstood. By every inquirer known to me it has been treated as an empire founded by a barbarous race, the Tang kiang, pretty much as the Liau and Kin empires were founded by the Khitans and the Kin Tartars, but this is a mistake. It is true that the Tang kiang or Tibetan race were the most powerful inhabitants of Hia at this time, and were the chief supporters of its sovereigns. But the Tang kiang people and the people of Hia by no means connoted the same thing, while the royal race of Hia were descended from the Topa Tartars (*vide infra*). The tribes of Tang kiang had their own chiefs, and some of them were often subject to the

Sung empire and the Khitans, while the Hia empire still subsisted.

The empire of Hia was, in reality, a fragment of China, which fell from it in the great commotion that took place at the end of the Tang dynasty, when the governors of the various provinces whose jurisdiction had become hereditary set up a separate authority of their own. We shall have to treat of a similar case when we come to deal with the Shato Turks. The kings and emperors of Hia were similarly descended from the governors of Hia chau under the Tang dynasty, and until the destruction of that dynasty Hia was an integral part of China. This is not only perfectly clear from the narrative of the Chinese historians, but from the famous manifesto of Chao yuen hao, the king of Hia, which he addressed to the Sung emperor, Gin tsong, in 1038, and to which I shall return presently. In this he says he was descended from a family many of whom bore the title of emperor, and seems to claim descent from the Tartar family of Topa, who founded the dynasty of Wei (De Mailla, vol. viii. p. 202). This is confirmed by the author of the Kang mu, who, in giving a *resumé* of the history of Hia, tells us its royal family was descended from Topa, who, during the Tang dynasty, entered the country of In hia (*id.* vol. ix. p. 126). This was doubtless the Topa yen chao mentioned in the year 939, and who was then sovereign of the Tang kiang (*id.* vol. vii. p. 332).

Let us now consider their country: *ho* in Chinese means river. It is a constantly recurring generic particle in the names of Chinese rivers, and thence the explanation of many topographical names. Thus the province of Honan means merely south of the river, *i.e.* of the river *par excellence*, the Hoangho or Yellow River. Another district also formerly bore the name, as we shall see presently. A correlative of Honan was Ho pe, *i.e.* "North of the river," a name given to part of Shan si. A more important compound of the word was Ho si, *i.e.* west of the river, which was corrupted by the Mongols into Kha shi. The Yellow River has a very strange course in its western part. After

flowing more or less towards the North-west, it suddenly at Lan chau turns nearly north, and after running thus for a long distance turns east, and then almost due south as far as the famous fortress of Tung kwan, where it flows on almost directly east to the sea. The great bend which it thus makes incloses the country of the Mongol tribes of the Ordus and a large part of Shen si. Now it will be seen that as it doubles upon itself, its channel runs north and south in two places parallel to one another. In the western one the river runs to the north. In the eastern one to the south. The name Ho si, west of the river, might technically mean the country west of either portion. It has been so used apparently sometimes, and perhaps more generally as describing the land west of the great bend altogether. Klaproth seems to have so understood it, but it seems also that the Chinese applied the name in a wider sense, not only to the wild country west of the great bend, but to the *enclave* of the river itself, that is, to the larger portion of the modern government of Shen si, which might be and was as properly Ho nan, *i.e.* south of the river, as Ho si, since it was inclosed by it. This, I take it, with the Ordus land, was the Ho si of some Chinese historians, and the Kha shi or Kho shi of the Mongols (D'Ohsson, vol. i. p. 95 note), and thus it becomes clear how they should have applied the name of Ho si to the kingdom of Hia, whose eastern limit was in fact that portion of the Yellow River running from Paoti to Tung kwan. Besides Kha shi the Mongols also gave this country the name of Tangut, a name it bore in other languages; for, according to a Chinese-Uighur vocabulary cited by Klaproth, Ho si is translated Tangut, while in a similar Chinese-Bukharian vocabulary it is translated Tanghut (Beleuchtung und Widerlegung des Forsch. ueber die Gesch. der Mitt. Asiat. Volk des Herrn Schmidt, p. 64). The *t* in this name is merely the sign of the plural in Mongolian, and the name is really Tang ku, the same name as the Tang kiang of the Chinese. The Tang kiang or Tang ku formed the dominant race of Hia. They were divided into four tribes,

of which three, the Itsi Tang ku, the Kara Tang ku or Black Tang ku, and the northern Tang ku, were subject to the Khitans, while the southern Tang ku were inclosed within the limits of Hia (*id.*).

The Tang ku were Tibetans and were the nearest Tibetans to the Mongols, whence the latter came to give Tibet the general name of Tangut, and the former country is now known among the Mongols as Tangut (Nouv. Journ. Asiat. vol. xi. p. 465).

The inhabitants of this district comprised several very distinct races. These were the Tang kiang or Tibetans, the Chinese, the Uighurs and also the Fan or wild tribes of the border-land between Tibet and China.

The principality was called Hia or Si hia, *i.e.* Western Hia, and also Ta hia, *i.e.* Great Hia, by the Chinese, whose primeval emperor Yu is said to have struggled hard in this district to direct aright the course of the Yellow River. He was the founder of a dynasty which was called Hia (Palladius, Yuan chao pi shi, note 243). The Tibetans gave the country the name of Minak (Schmidt, Ssanang Setzen, note 56). The nucleus of the future empire of Hia consisted of the four prefectures or districts of Hia chau, Sui chau, In chau and Yeou chau.

Hia chau was the capital of the whole province in early times, and doubtless gave it its name. It has been confused by Klaproth and almost every other inquirer with Hing chau, the modern Ning hia, which was the later capital of the country. Its real site I have not been able to find, but De Mailla says it was situated in the country of the Ordus (*op. cit.* vol. v. p. 2 note).

Sui chau was a town of North-Eastern Shensi, also known as Sui ti chau, in the district of Yeu ngan fu in Shensi and is called So chau by Du Halde. In chau is not improbably the Yan ngan or Yen chau, situated somewhat to the south of Sui ti in the same province. Yeou chau, of whose position I cannot find any mention, was probably also in the northern part of Shensi.

From this primitive kernel the kingdom of Hia gradually

grew, until its limits were very wide asunder. On the west it conquered the towns of Kua chau, Sha chau, and Su chau from the Uighurs, while its authority apparently extended over Khamul, Barkul, Urumtsi, Turfan, and the country watered by the river Chaidam and the part of the Gobi situated between China, Khamul and Lake Lob, while southwards it extended as far as the Bayan Mountains, which separated it from Tibet (Nouv. Journ. Asiat. vol. xi. p. 461). On the east it dominated over the country of the Ordus (Timkofski, Travels), and a large part of the ancient province of Shensi, as far east as the Yellow River. In the *resumé* of the history of Hia in the Kangmu we are told that after the reign of Li yuen hao (*vide infra*) having crossed the Hoangho and built Hing chau (*i.e.* Ning hia), where they held their court, the princes of Hia soon found themselves masters of Hia chau, Sui chau, In chau, Yu chau, Ling chau, Yen chau, U chau, Wei chau, Chang ye, Tsui chuen, Tun hoang and many other towns and departments. To the south they extended their empire as far as the mountain Heng Shan, to the east as far as Si ho (*i.e.* west of the river).

Their country was 10,000 *li* in extent, and comprised thirty-two departments; nine in Ho nan, literally south of the river, and here meaning no doubt in the enclave of the Hoangho, *i.e.* Ling chau, Hong chau, Yu chau, In chau, Hia chau, She chau, Yen chau, Nan wei chau, Hoei chau. Nine in Ho si, namely, Hing chau, Ting chau, Hoai chau, Yong chau, Leang chau, Kan su, Sha lu, Tsin chau, Kua chau, and four in Ho wei,—*i.e.* on the river Wei—Si ning chau, Lo chau, Ku chau, and Ki she chau, which supplied the five kinds of grain in abundance, and, above all, plenty of rice and wheat (De Mailla, vol. ix. pp. 126-127).

During the Mongol period Tangut was divided into seven *lus* or prefectures, thus enumerated by Pauthier: 1. Sha chau (the Sa chiu of Marco Polo), *i.e.* the sand district, an outpost of China at the eastern verge of the worst part of the Sandy Desert (Yule's Marco Polo, p. 209); it was conquered by the Tangutans from the Uighurs. 2. Suh chau (the Succiu of Polo, and Sukchu of Rashid-ud-din); this was also a

conquest from the Uighurs. Kan chau (the Campichu of Polo). I tsi nai (the Etzina of Polo). Yung chang (the Erguiul of Polo), Ning hia (the Irghai of Ssanang Setzen and Egrigaia of Polo), and Wuh la hai (? the Changin Talas of Polo, see Pauthier's *Marco Polo*, p. 206, note, Yule's *Polo*, vol. i. pp. 206, 274). This enumeration seems to show that the name Tangut had then become limited to the lesser area called Ho si, which was certainly to the west of the Yellow River, and then included no part of Shen si.

In the first notice that I find of the history of this kingdom, we are told that Li shi chang, the governor of Hia chau, one of the ancestors of the kings of Hia, having rebelled against the Emperor, had been killed. One of his relatives, named Fu gin fu, had succeeded him (De Guignes, vol. ii. p. 52). He is no doubt the Li gin fu mentioned at a later date by De Mailla (*op. cit.*). In the year 909 the kings of Tsin and of Ki marched against him, and Cheou te goei, the former's general, laid siege to Hia chau, but the Emperor, who feared that the king of Tsin would afterwards occupy the western capital, sent some troops, which caused the siege to be raised (De Guignes, *id.*; De Mailla, vol. vii. pp. 136-7).

We next read in the Kang mu that Li gin fu (no doubt the prince just named), the Governor of Ting nan—upon which depended the principal places of Ho si, which were conterminous with the Tartars—died. As this government was very important in consequence of this proximity, and Li y chao, the son of Li gin fu, was deemed too young for this responsibility, the officials at Hia chau, Ui chau (? Wei chau) and Yeou chau demanded in a common document that another government should be confirmed on Li y chao, and that someone should be put in his father's place capable of making head against the Tartars. The Emperor consented, but Li y chao was not willing to abandon his government, and as the greater part of his father's officers declared for him, he shut himself up with a good garrison in Hia chau, and determined not to surrender the charge his father had left him. Ngan tsong tsin was sent with an army against him, but the fortifications

of the town, which had been erected by He lien pu po under the Tsin dynasty, had become even more solid and firm with time, and resisted all the efforts of the Imperialists. Meanwhile, a body of 10,000 Tang kiang, who had been called to his aid by Li y chao, cut off the convoys destined for the Imperialists, and so devastated the country that everything became very dear in the Imperial camp, and the forage was so scarce that many of the horses perished. Li y chao, having learnt from deserters the condition of the army, mounted the ramparts and cried out, "You see the condition to which you have reduced the district of Hia chau. The people are reduced to the greatest distress. Do you and your followers wish to perish before this place? I never had the least intention to rebel. I only wish to preserve the government my father left me on his death. You may assure the Emperor of my attachment to his person, and that I am ready to execute his orders." The Emperor, informed of this message, ordered his men to retire—a diplomatic phrase, surely, for we immediately after read: "The retreat of the Imperialists only made the officers of Hia chau more exacting" (De Mailla, *op. cit.* vol. vii. pp. 287-289).

Our next notice is in the manifesto of Chao yuen hao, already mentioned, where he claims descent from Se kong, who, having rendered the Emperor considerable service at the end of the Tang period, was rewarded with a considerable employment (De Mailla, vol. viii. p. 202).

In 982, according to the Kang mu, all China was once more united under the Sung Emperor, as it had been in the times of the Han and Tang dynasties, except the province of Yen or Peking, of Yun or Tai tong fu in Shan si, and the sixteen chaus dependent on it, namely, Yeou chau, Ki chau, Ing chau, Mu chau, Cho chau, Tan chau, Shun chau, Pe chau, Sui chau, Sin chau, U chau, Yun chau, Shu chau, Ing chau, Hoa chau and In chau, which had been ceded to the Khitans by the prince of Tsin (De Mailla, vol. viii. pp. 84-85).

In that year, Li ki pong, who, we are told, had received the government of the four districts of Hia chau,

Sui chau, In chau and Yeou chau from Li se kong, *i.e.* the Se kong above named, who was possibly his father, went to the Imperial court and surrendered his charge to the Emperor, on the ground that he was at issue with most of his relatives, who were apparently turbulent people (*id.* p. 85). When he left his government, he appointed Li ki tsien to govern the four districts in his absence. Li ki tsien was apparently related to him. The Emperor, having sent an official to summon all the family of Li ki pong to the court, Li ki tsien, who knew the motive of the order, excused himself on the ground that he had to attend the funeral of his nurse, who was dead. This excuse was allowed. We are told that he then went to Ti kin chi (300 *li* north-east of Ning hia), and having shown the people the portrait of the first of his ancestors, who formerly reigned there, they could not restrain their tears, and promised never to abandon his interests. The Imperial commanders, In hien and Chao kuang chi, who had authority in these parts, quickly collected their forces and fell suddenly on the country of Ti kin chi, killing some 500 Tartars, and burning about 400 tents. Li ki tsien, and his brother Li ki chong, escaped, but had to abandon their mother, who was captured, as well as the wife of Li ki tsien. The latter now adopted a wandering life, but his partizans rapidly grew in numbers, and he at length proceeded to attack Lin chau.

As his people were not strong enough to besiege the place, he had recourse to craft. He sent to inform Chao kuang chi, who was a relation of his, that his resources were coming to an end, and asking him to go to Kia lu chuen (Kin chau of Yen ngan fu in Shensi) to accept his submission. Chao kuang chi was misled, and also wished to have the credit of the affair; he went to the rendezvous, where Li ki tsien also went, having first planted an ambush. Into this Chao kuang chi fell, with the hundred horsemen who formed his escort, and the whole party perished. Li ki tsien then captured In chau. Sau tsu also submitted to him. Meanwhile, the Emperor sent Tien gen lang, the governor of Tsin chau, at the head of an army to put down the rebel,

but he delayed operations, and spent his time in frivolous amusements. When called to account by the Court, he replied that his army was not strong enough, that the tribes of Tang kiang supported the rebel, and that it would be well to try and persuade them, and especially their chiefs, to lay down their arms. The Emperor was displeased with these answers, and exiled him to Shang chau. He was succeeded by a more vigorous commander, name Wang shin, who, issuing by the north of In chau, fell on Si li and other fortresses of the rebels, which he speedily captured. He then cut off the head of Chi lo yu, the governor on behalf of the rebels, at Tai chau, which he exposed publicly as an example.

The people of Lin chau, which then belonged to the Kiang, afraid of sharing the same fate, offered horses to Wang shin as a token of submission, and also offered him troops for the suppression of Li ki tsien. Accepting their assistance, he marched against Li ki tsien, whom he encountered at Cho lun chuen. He defeated him and killed more than 5000 men. Kuo cheou wen, at the head of a fresh army, had gone to Hia chau, whence marching to Yen ching, he fell on the camp of the Kiang, burnt more than 1000 tents, and dispersed their army after killing a great number of them. These two victories greatly depressed the rebels, and the three departments of In chau, Lin chau and Hia chau were once more reduced to obedience. They were peopled by 125,000 families, to whom more than 16,000 other families paid tribute. Li ki tsien, chased from China, submitted to the Khitan Emperor, who nominated him governor-general of Ting nan, *i.e.* of the district from which he had been driven away, and as if Hia chau was actually in his possession, he appointed him commander of the troops in that town (*id.* pp. 93-95). These events took place in 985. Li ki tsien married a Khitan princess, and in the year 990 the Emperor of the Khitans created him prince of Hia, a province which belonged to the Sung Empire. He now determined to try and recover that principality. He made overtures to Chao pao chong, who commanded there, sending him word that,

repenting of what he had done, he wished for some one to mediate with the Emperor, so that he might once more return home again. Chao pao chong, deeming him sincere, sent his statement on to the Emperor, who, on his recommendation, pardoned him; but a feeling of mutual distrust apparently prevented his accepting this favour, and he remained among the Khitans. A few months later, and in the year 991, Li ki tsien advanced at the head of an army to try and recover Hia chau; but he was defeated and dangerously wounded. When he recovered, he again asked pardon from the Emperor, who went so far as not only to forgive, but to appoint him sub-governor of In chau; but he was not content, and soon returned again to the Khitans, who gave him the title of Si ping wang or prince of Si ping (*id.* pp. 115-116). With their assistance, he increased in power rapidly, and greatly harassed the northern borders of the Empire. In the 4th month of 996, the Emperor having despatched 400,000 measures of grain to Ling chau, situated on the eastern bank of the Yellow River, a little south of Ning hia, Li ki tsien, who had heard of it, defeated the escort and carried off the plunder. He then proceeded with 10,000 or 12,000 men to invest the town of Ling u. The Emperor sent a large army to the rescue. It marched in five divisions, which were ordered to rendezvous at Ping hia (doubtless Ping liang). Two of the divisions failed to obey orders, their commanders having a plan of their own, and, much to the Emperor's disgust, instead of going to the relief of Ling u, went to the place where Li ki tsien generally lived. This disconcerted the plan of operations, only two of the divisions reached U pe chi, where they met the enemy. They were not strong enough to beat him however, and after three days' hard fighting, retired *for strategic reasons*, and the Tartars naturally claimed a victory (*id.* pp. 128-129). Li ki tsien now seems to have submitted to the Sung Emperor, and we are told that in 997 the Court congratulated the Emperor on the happy termination of the rebellion, which was gracefully closed by his granting Li ki tsien the government of Liang chau, together with the five departments of

Hia chau, Sui chau, In chau, Yeou chau and Tsing chau (*op. cit.* p. 131).

The following year Tien si, the governor of Tai chau, presented a memorial, in which he stated that Hia chau had always been deemed one of the gateways of the empire, and that it was very imprudent to hand it over to Li ki tsien; he also disapproved of the latter taking the name of Chao pao ki (*id.* p. 132).

In 1001 the Uighurs sent an embassy to ask assistance against Chao pao ki, who was pressing them hard. The latter continued to harass the north of the Empire, and the same year the Emperor sent Chang tsi hien to make inquiries on the spot as to these depredations. He reported that the district of Ling u was very isolated, very difficult to succour and very costly to guard, and that to continue to hold it would endanger the lives of 70,000 people. Another officer, named Ho leang, reported very differently. He said the country of Ling u was more than 1000 *li* in circumference, and was protected on all sides by the Hoangho or Yellow River and the neighbouring mountains, and that it ought to be protected against the Tartars, who would draw great advantages from it (*id.* pp. 141-142). The Emperor was much embarrassed by these contradictory reports, and remitted the matter to his council, which was similarly embarrassed; some were for withdrawing from, others for retaining the district. The Emperor determined upon preserving the *status quo*, and sent Wang chao there, with ample powers and 60,000 men, cavalry and infantry. In 1002 Chao pao ki, whose power daily increased, won over a large part of the Tibetans, and, to forestall the decision of the Imperial court about himself, marched with a large army against Ling chau. It was defended by a brave officer named Pei tsi, but was not prepared for resistance, and before succour could arrive, Chao pao ki attacked it fiercely. Pei tsi was killed in the breach. Having taken the town, he determined to change its name to Si ping fu, *i.e.* "town of the western peace." He wished the people of these countries to feel that peace was secured by his presence (*id.* p. 143). The next year Pan lo chi, the chief of the Lu ku tribe, a tribe

of Tibetans, offered to unite his forces to those of the Empire against Chao pao ki, and asked for a title to justify his position. It was decided to give him the honorary title of governor of an Imperial province, and he was styled accordingly governor-general of Su fang. Pan lo chi then advanced with 60,000 men, and completely defeated Chao pao ki, who was badly wounded and obliged to retreat towards Ling chau. He died on the way at the age of 42, and left his dominions to his son Chao ti ming, who was only 23 years old. Chao ti ming sent to inform the Khitan Emperor, who, to secure his assistance against the Chinese, sent him letters-patent as prince with the title of Si ping wang. His father had advised him to submit to the Empire, but not to make any sacrifice. His envoy went to Tsao wei, who commanded at Chin Yong, and who made the following report.

"It is twenty years since Chao pao ki conquered from China the country north of the Hoangho. During all this time his troops have kept on their cuirasses. It is very sad to see how they have ravaged this western land. His death has wrought a great change among his subjects. His son is only a youth, and we ought to take advantage of the circumstance and crush this long-standing rebellion." He asked for a body of picked troops, with whom he promised to recover the towns Chao pao ki had conquered, and to bring his son captive to the Imperial throne. But the Emperor loved peace, and determined to win over the young prince by kindness. The companions of Chao pao ki having determined to revenge his death, two of them, named Pan mi ki ge and Pu ki lo tan, pretending to be deserters, went to Pan lo chi's camp. His tribe was then in a state of revolt, and during a struggle in which he endeavoured to repress it, the two conspirators killed him. The Lu ku Tartars put his brother Se tu tu in his place (*id.* pp. 145, 146). This was in 1004. Two years later, Chao ti ming, in accordance with his father's wish, sent his submission to the Sung Emperor. The latter appointed him governor of Ting nan, and gave him the title of Si ping wang, already conferred on him by the Khitan Emperor. He also asked him to send his sons and brothers as hostages,

promising to treat them well. He replied that his father had never done anything of the kind, either to the Chinese or Khitans, and he contented himself with sending a present of horses and camels. Soon after, the Emperor, who wished to retain his allegiance, gave him the title of Prince of Hia (*id.* pp. 159, 160). We do not read of him again till 1026, when we are told that the Khitans, who began to be afraid of Chao ti ming, although they avoided a direct quarrel, determined to inclose him in their territory by the conquest of the country of the Hoei hu or Uighurs, and proceeded to lay siege to Kan chau. We are told that this movement disturbed the Tsan pu of the Tang kiang, whose tributaries these Hoei hu were, and who feared they would next invade his country. He accordingly marched against the Khitans, and compelled them to raise the siege of Kan chau, and to return home (*id.* vol. viii. p. 189).

This defeat greatly pleased Chao ti ming, who knew the reason why the Khitans had attacked the town, and he determined to checkmate their policy by annexing Kan chau himself. He therefore sent his own son Chao yuen hao, a prudent and skilful prince (who dressed with taste and understood perfectly both the Tartar (*i.e.* Khitan) and Chinese books) against the town. The Uighurs were beaten, and Kan chau was taken, after which he returned home. His father rewarded him by nominating him heir to the throne.

In 1032 the Chinese court, seeing that Chao ti ming was daily becoming more powerful, determined to give him the title of prince of Hia, and to give his son Chao yuen hao the title of Si ping wang. Shortly after Chao ti ming died. The Khitan Emperor, to retain him in his allegiance, thereupon sent Chao yuen hao letters-patent as prince of Hia. He was more devoted to the Khitans than to the Sung Empire, and had pressed his father to break the yoke of China; but the latter preferred the diplomatic policy of keeping friends with both sides. "It is a long time since I have fought," he said on his death-bed, "and I don't regret it. For thirty years our family has received from China a

great number of pieces of silk, and we ought not to be ungrateful." "The Tartars," replied Chao yuen hao, "are content with clothes made of skins. Our nation is not accustomed to luxury and ease. Its task is to feed flocks, and not to fear trouble or fatigue. By its valour and prudence it can subject its neighbours. Of what use to us are these brocades and silks, which only serve to soften our courage, and thus to limit our conquests" (*id.* pp. 192-193).

After his father's death Chao yuen hao regulated his troops on the Chinese model. He summoned the officers every six days for instruction, and to give them orders. He also established tribunals of war and police after the Chinese fashion, and colleges where the young people could study Tartar and Chinese. He imitated the Tartars also in their military exercises, and their celebrated hunts, in which his men were hardened and trained (*id.* p. 193).

In 1034 Wei tong, to protect the western frontiers of the empire, where he commanded, determined to take from Hia certain fortresses which were well disposed towards him. Chao yuen hao regarded this as a declaration of war, entered the department of King chau (*i.e.* King yang fu in Shen si), and defeated Yung tsun, who tried to stop him, and Tsi tong kin, who went to the latter's assistance, fell into an ambuscade and was made prisoner. He was, however, released shortly after (*id.* pp. 198-199). Not feeling very confident about a struggle with China, the prince of Hia turned his arms elsewhere. He sent Su nur against Su se lo, the prince of Tibet, who, however, defeated and made him prisoner. Chao yuen hao, chagrined at this defeat, put himself at the head of his troops and proceeded to besiege Miao nieou ching, which he tried in vain to capture by assault. He then used craft, and promising the inhabitants to treat them well, he persuaded them to open their gates, when his troops rushed in and put to death a vast number of them. This intimidated several of the neighbouring towns, and he took Tsing tang, Tsong ko, Tai sing ling, etc. Ngan tse lo, an officer of Su se lo, who tried to cut off his retreat, was defeated, but he inflicted considerable losses on the

enemy, who also lost many men in crossing the river Tsong ko. The Tibetans, therefore, claimed the victory, and all the more as Su se lo, coming up after the troops of Hia had crossed the river, attacked Chao yuen hao, defeated his army, and captured his baggage (*id.* pp. 199-200). This was in 1035.

Chao yuen hao now raised fresh forces. He was already master of Hia chau, In chau, Sui chau, Yeou chau, Tsing chau, Sing chau, Yen chau, Hoei chau, Ching chau, Kan chau, and Leang chau in Shensi; besides which he had conquered the country of Kua chau and Sha chau, and raised to the rank of chau the fortresses in the district of Long. He made Hing chau (*i.e.* Ning hia), which was washed by the Yellow River on one side and bounded by the Ho lan Mountains on the other, his capital. His dominions were at least 10,000 *li* in circumference (*id.* p. 200). He had always on foot an army of 150,000 men, whom he distributed in his frontiers according as they were threatened. Thus, north of the Hoangho he had 7,000 to oppose the Khitans; south of that river he had 50,000 to oppose to the Chinese governors of the departments of Hoan chau, King chau, Tshin yong, and Yuen chau; 50,000 others posted towards Tso nang, and Yeou chau defended him towards Fu yen and Lin fu; 30,000 towards Yeou siang and Kan chau kept the Tu fan and Hoei hu or Uighurs in order; while the remaining 13,000 were distributed as the garrisons of Ho lan, Ling chau, Hing chau, and Hing king fu. Besides this army, he had 5000 picked men for his guard, and 3000 cuirassiers who followed him in all his expeditions. In 1036, to counteract the defeat of the previous year, he took the towns of Kua chau, Sha chau, and Su chau, from the Tibetans (*id.* pp. 200 and 201).

In the latter part of 1038, Chao yuen hao, having sent some people to the mountain U tai; to offer sacrifices to render the Buddha there propitious, assembled all his chiefs, and having assured himself of their fidelity by the most terrible oaths and the drinking of blood, he took the title of Emperor, and prepared to attack China on three sides—one

by way of Fu yen, another by that of Tsing ti, and the third by that of Shi ching. Before doing so, however, he addressed the Emperor Gin tsong in the following document :

“I descend from a family many of whom have borne the title of Emperor. Towards the end of the dynasty of the Eastern Tsin there began to reign the later Wei, who conquered a part of China. Before the extinction of the Tang empire, Se kong, one of my ancestors, went to their assistance, and rendered such assistance to the Emperor that he received an important post, and was adopted by the Imperial family, and was allowed to adopt their name (*i.e.* the name of Li, H.H.H.). Li ki tsien, my grandfather, wishing to renew the fame of our family, raised troops to conquer its ancient patrimony, and was fortunate enough to conquer the various hordes of this district, who acknowledged him as their sovereign. Li ti ming (*i.e.* Chao ti ming), my father, who succeeded him, submitted to the laws of your majesty and became your tributary. On his death, his kingdom having fallen into my hands, I have had the noble ambition of raising myself to the rank of my glorious ancestors. I have discarded the Chinese dress I wore and adopted theirs. I have given honour to literature, and have established laws. I have so regulated matters that the Tartars of Tufan (*i.e.* the Tibetans), the people Chang ye (?), and the Kiao ho (the Gyas ?), have conformed with an ease I could not have expected. One thing only troubles them, that they are subject to a prince of Hia, and not to an emperor. On noting this, I caused a great mound to be made, on which I mounted on the 11th day of the 10th month, and all the chiefs of these nations have saluted me as Emperor of Hia. I pray your majesty not to oppose this, but to recognize me as such, so that there may be a constant and solid peace between the two empires” (*id.* pp. 202 and 203).

The boast of Chao yuen hao about the Tibetans was not well founded, for the tribe of Pan lo chi (*vide ante*) and many thousands of Uighurs had submitted to Su se lo, who was in a position to harass him considerably. He held his court at Shen chau, and on his western borders was master of the town of Lin

ku ching, by which he communicated with the kingdoms of Tsing hai (*i.e.* the Kukunor, Porter Smith, p. 56) and Kao chang (*i.e.* the Uighurs of Bishbaligh), which carried on a considerable trade with his people, the source of his wealth and power. The Emperor encouraged him and gave him titles, so as to secure his aid against the Prince of Hia (*id.* p. 203).

The Emperor called a council to determine what was to be done with that ambitious person. A reward was offered to any one who should capture him or cut off his head, and an order was issued that no trade was to be carried on with his dominions. *He was also deprived of the surname of Chao, that of the Imperial family of the Sung dynasty, which had been granted to Li ki tsien when he submitted.* Chao yuen hao was indignant when he heard this news, wrote a sharp letter, and sent back in a box all the letters-patent which he or his ancestors had received, by Ho yon nien, one of his officers (*id.* p. 284).

He then prepared to attack the empire. He first occupied Pao ngan (in the district of Yen ngan fu in Shensi), and then the fortress of Kin ming chai, where he captured the two Li se purs, father and son. Thence he proceeded to besiege Yen chau, whose governor was Fan yong, and which was badly prepared for defence. An Imperial army of 12,000 men, which marched to the rescue under Leou ping and She yuen tsun, was entirely defeated near San chuen keou, after a protracted struggle, and those officers were captured (*id.* p. 205). A heavy fall of snow hindered the besiegers however, and the siege was raised. Chao yuen hao now proceeded to attack San chuen, but his magazines and stores were surprised and destroyed at Pe pao ching, by a contingent of 7000 Chinese. These events took place in 1040. Meanwhile Fan chong yen, an officer who had acquired a great reputation in a war with the Khitans, was appointed generalissimo. A discussion arose between him and Han ki, who was much elated by his victory, as to the prudence of joining issue with the Emperor of Hia, with the forces then available, and at that season, *i.e.* in the winter. Both officers seem to have remitted their plans to the Emperor. Han ki enlarged on the

fact that the army of Hia only numbered 40,000 or 50,000 men, and was hampered by taking with it a crowd of women and children, of old people and sick, while Fan chong yen urged that the Hia Tartars occupied a number of strong positions in the Hang mountains, which were practically inaccessible on account of the defiles, and urged that a policy of conciliation should be adopted towards them. The Emperor of Hia, to encourage this view, and perhaps to mislead the Imperialists, sent Kao yen ti, a Chinese whom he had made prisoner, to Fan chong yen, to explain that he desired peace. Fan chong yen urged him to lay aside the title of Emperor, and to content himself with that borne by his father, Chao ti ming. Meanwhile he had sent an army into Wei chau (Kang chang fu in the western part of Shensi), to attack the town of Hoai yen. Han ki collected an army of 18,000 vigorous young troops at Chin yong, and gave the command of them to Gin fu. He ordered him when he reached the fortress of Te ching chai (near Tsing ning chau), to turn towards Yang mu long ching (near Long te hien), in the district of Ping leang fu, and to emerge to the north of the enemy, where their forts were only forty *li* apart, and if they did not meet them, to seize the gorges and defiles and cut off their retreat (*id.* p. 210).

An advance guard of several thousand picked troops encountered a similar body of the army of Hia south of Chang kia pu and having killed a certain number, the others took flight and abandoned their horses, sheep and camels. This was a ruse, however, to draw the Chinese on. Gin fu was misled and advanced confidently with his main body by the river Hao, the base of the mountain Sui pan, to within 5 *li* of Yang mu long, into a very difficult country, where the prince of Hia was lying in wait with 100,000 men. Sang i, one of the Imperial generals, noticed, we are told, a number of silver boxes hanging from the trees. These had been locked with great care, and it was reported they contained something. Sang i, afraid of a surprise, would not open them until the arrival of Gin fu, whose curiosity being aroused, had them opened, when a number of tame pigeons

flew out, which began to tumble in the air in front of the army. This gave the signal for the troops of Hia, who issued from their hiding-place. The fight went on from eight in the morning till noon, when the enemy raised a large standard in the midst of the battle-field, and fresh bodies of troops came down from the mountains. The Imperialists were now speedily overpowered. Sang i and Lieou su were killed. Gin fu, wounded by ten or twelve arrows and streaming with blood, rushed sword in hand into the enemy's ranks and was killed, with his son.

After having defeated the main Chinese Imperial army, the troops of Hia turned upon another body, commanded by Chu koan and U ing, and defeated it also. The Imperialists in the two actions lost 10,300 men. The Emperor was much harassed by this defeat, and was some time before he could eat, and Han ki, who had suggested the rash campaign, was degraded and reduced to be the simple governor of Tsin chau. The King of Hia was correspondingly elated, and sent an insolent letter to the Imperial authorities, which was publicly burnt by Fan chong wei, who we are told knew the power of Hia better than any one, and had counselled a conciliatory attitude; but this act of vigour was repudiated by the timorous Court, which ordered his recall also. He was appointed governor of Yo chau, and Hia fong was nominated to the command of the troops on the frontier. The latter was a mere Sybarite, who devoted himself to pleasure, and when making a tour of inspection, was accompanied by a number of women. This gained for him the contempt of his own soldiers, as well as of the people of Hia. The King of Hia offered a large sum for his head, and his people made constant raids over the frontier, and carried off their plunder. If he resisted, he was certain to be beaten. A complaint against him was sent to the Court by his lieutenant Chang fang ping. Although he had strong partizans at the Court, Hia fong was recalled, and appointed governor of Ho chong, and fixed his residence at Shen chau. It was now determined to divide the province of Shen si into four governments. Han ki was recalled, and appointed to be governor of Tsin chau, Fang

chong yen of King chau, Pong tsi of Yen chau, and Wang yuen of Wei chau. Han ki, we are told, by his vigour and vigilance, speedily restrained the attacks of the Hia on his side; while Fang chong yen conciliated the Tang kiang, who had submitted to the Hia, and persuaded them to put themselves under Chinese protection (De Mailla, vol. viii. pp. 212-215). These events took place in 1041.

Three years later the Tang kiang, who were subject to the Khitans, sent to complain of an attack made on them by the King of Hia; but the envoy they sent was ill-treated, and returned home without effecting anything (*id.* p. 230).

The Tang kiang, especially the horde of Ta ir, composed of 800 families, and Kiu liei, chief of the tribes west of the mountains, either through fear they had of Hia or deeming it better policy, now abandoned their allegiance to the Khitans, and submitted to the latter. The King of Hia, conscious of the resentment this would cause, now sent a proposal to the Sung Empire for an alliance against the Khitans:

"I have failed twice in seven years," wrote he to the Emperor Gin tsong, "to make a solid peace with your majesty. I am now resolved to do so, and ask for the following conditions. That I may appoint proper tribunals to govern my people, that my people and yours may pass and repass freely to and from each empire. As your vassal I ask that, besides the towns of Kao lao, Sien tao, Nan ngan and Ching ping, which belonged to my ancestors, I may be allowed to fortify certain positions on the frontiers both of the Chinese and the Khitans. That each year your majesty will send me the money, the silks, and the 30,000 pounds of tea as agreed upon. I promise on my part to remain faithful, and if I should break the peace may my family soon come to an end, and may my children be soon reduced to dire distress" (*id.* pp. 230-231).

The Emperor acceded to these propositions. The Khitans on their part determined upon war, and before doing so, also sent an embassy to the Sung Emperor, saying they were about to march against Hia for having rebelled

and to warn him therefore not to make peace with them. The Khitan army, numbering 167,000 horsemen, divided into three bodies, one of 100,000, commanded by Ye lu chong chin, the Khitan Emperor, in person, marched by the southern route. The second of 60,000 men under Siao hoei took the northern route, while the third of 7,000 under Ye lu chong yuen followed the first. Having crossed the Yellow River, they advanced 400 *li* without meeting the enemy. Siao hoei approached the mountain Ho lan, where the King of Hia was posted, and defeated him. The latter then had recourse to stratagem. Having assembled the Tang kiang, who were incorporated with his people, he sent to ask peace from the Khitans, promising to restore them, but meanwhile he retired for some distance and laid waste the flat country.

Siao ke accordingly went to his camp to receive the submission of the three hordes of the Tang kiang. He distributed wine, and read a homily to the Hia troops; but he seems to have extorted nothing from them but vague promises. Chao yuen hao, the King of Hia, saw how hollow the truce was, and continued to retreat, burning the herbage on the way, so as to prevent pursuit by the Khitan cavalry, which therefore began to retire. He now took the offensive, attacked the camp of Siao hoei suddenly, and dispersed his men, then marched against the main army under the Khitan Emperor, and so defeated it that he barely saved himself with a few horsemen; a great number of his officers were killed or captured, among them being Siao hu tu, the commander of his cavalry, and Siao hiao yeou, the head of his privy council, who, with all the other prisoners whom he had made, the King of Hia generously sent back. This policy was imitated by the Khitans, who also returned the prisoners they had made, and specially the envoy of the King of Hia, who had been retained prisoner (*id.* pp. 233-234). The Sung Emperor now sent to congratulate Chao yuen hao on his victory, sent him letters-patent as King of Hia, gorgeous robes befitting the dignity, and a golden girdle, a beautiful horse, whose saddle and other trappings were decorated with

silver, 20,000 taels of silver, 20,000 pieces of silk, and 30,000 lbs. of tea, together with a silver seal inscribed with the characters Hia kue chu in, *i.e.* "Seal of the ruler of the kingdom of Hia." The Emperor also permitted him to appoint his own officials, and undertook to defray the cost of keeping his envoys, when on Imperial visits; he also granted to these envoys the privilege of sitting in the hall of audience. The King of Hia was in future to use the Imperial tamgha or signature in his public documents, to publicly recognize himself a dependent of China, and to receive his envoys with respect. The Chinese ambassador was only given a cold reception, and when he returned home, the King of Hia adopted the style of Emperor as before.

The Khitan ruler, after his great defeat, lost confidence in his men, and began to feel some dread of Hia. He accordingly changed his metropolis to Yun chau, to which he gave the name of Tai fong fu (*id.* p. 235).

In 1048 Chao yuen hao, who may claim to have practically established the empire of Hia, was assassinated at the age of 46. He had married Ye li shi, the daughter of Yu ki tsong, by whom he had a son named Ming ling ko, to whom he was much attached, and who was to have been his successor. He had chosen Min she foi for his wife, but, overcome by her attractions, he married her himself. Ming ling ko, in a jealous fit, gave him a terrible blow, from which he died a few days after. The parricide fled to U pong, who put him to death. The grandees informed the Chinese and Khitan authorities of what had occurred, who sent to condole with the widow. Chao yuen hao left an infant son named Li tsiang tso, and his mother became regent. Some of the grandees suggested that this was a good opportunity to break up the power of Hia, and urged that that kingdom should be divided among three of the principal chiefs, so that the Chinese could proceed to subdue it when it was thought convenient; but Ching lin, one of the principal mandarins of Shen si, argued on the other side that it was not generous to treat a country plunged in mourning thus. The Emperor agreed with this view, and letters-patent were sent to Li

tsiang tso similar to those of his father (De Mailla, *op. cit.* vol. viii. pp. 239-240).

The Khitans were not so fastidious, and Siao hoei determined to revenge himself for the battle he had lost; and we are told his military train occupied a distance of several hundred *li*. He hoped to surprise the people of Hia when immersed in their mourning, and he marched carelessly, nor did he send videttes ahead to explore. His soldiers even marched without their arms, which were carried in the carts. He wished them to march lightly equipped, that they might not be wearied out at the end of their journey; but he was mistaken; the enemy had intelligence of his approach, and were prepared to receive him. They lay in ambush close to where the Khitans had to pass, and attacked them suddenly when disintegrated and without arms. A terrible slaughter was the consequence, and Siao hoei only saved himself by the virtues of his horse. This took place in the latter part of 1049. The Khitans were much chagrined by their defeat, and returned the following year and invaded the borders of Hia, contenting themselves, however, with plundering some flocks of sheep and herds of horses, and did not go against the army of Hia, which awaited them firmly. When the generals of the latter found that the Khitans were retiring with their booty, they did not attack them, but, marching by another route, invaded in turn the territory of the Khitans, whence they carried off four times more horses and booty. This was in 1050. These raids seem to have been repeated without any decided advantage on either side, and they ended by both sides making peace (*id.* p. 241).

In the latter part of 1067 Wei ming shan, a dependent of Hia, who with his horde lived in the ancient Sui chau, submitted to the empire. It seems that his younger brother, Wei i shan, commanded in the town of Tsing hien, whence he wrote to the Chinese officer Chong u, saying he wished to submit to China. The latter, wishing also to gain over his brother, sent him a great sum of money and a number of beautiful pieces of silk. This was accepted by one of Wei ming shan's petty officers, named Li wen hi, who answered

for his master without the latter knowing about it. The news was sent on to the Chinese Court. When Chong u went with his troops to see him, he made a virtue of acquiescing, and went over with 300 officers. He was at the head of 15,000 families, and had 10,000 regular soldiers. Chong u, to preserve his conquest, caused a town to be begun there. The King of Hia was naturally moved by this tampering with his vassal, and sent some troops to stop the builders of the town. They were beaten and forced to retire. Not strong enough to struggle with the empire, Li tsiang tso determined upon a ruse. He professed to have forgotten the outrage which had been done him, and that he wished to live at amity with China. Meanwhile, he prepared a sudden blow, fell unexpectedly on the troops of Pao ngan, who commanded at Yang ting, and pushing on to that general's tent, he killed him there, and thus revenged himself. A month later he died, and was succeeded by his son, Li ping chang, who, notwithstanding his father's quarrel with the empire, sent to ask for the letters-patent of office. When the envoy whom he sent was reminded of the death of Yang ting, he, in turn, referred to the outrage committed by Chong u. Matters were left thus; but the diploma was duly sent. We are told that Li tsiang tso preferred Chinese customs to those of the Tartars, which he abolished as far as he could. His vassals and mandarins were dressed in the Chinese fashion, and bore the same official titles as those of China. Judicial affairs, etc., were similarly modelled after the Chinese pattern (*id.* pp. 259 and 260).

In 1073 and 1074 we have a detailed account in the Kang mu of a war between Mu ching, the sovereign of Tibet, and the Kiang tribes, who, we are told, were ruled by Ki shui pa, and who were clearly then independent of the kingdom of Hia (*id.* pp. 278-281).

In 1081 Yu chong, the governor of King chau in Shen si, sent a report to the Emperor, in which he mentioned that he had learnt from the spies he had at the court of Hia, that Li tsing, one of the generals of the Hia army, a native of Tsin

chau, and a Chinaman, had asked the King of Hia to invade Ho nan; and that Leang chi, the mother of Li ping chang, the prince of Hia, who disapproved of this conduct, had caused Li tsing to be put to death, and had quarrelled with her son, whom she had put in prison. Yu chong suggested that this was a favourable opportunity to recover the territory which these Tartars had conquered from China. He urged that the kingdom of Hia had not a man of parts in it, and that its sovereign, Li ping chang, was a mere boy, that he could go and drag him by the shoulders and take him to the Imperial Court (*id.* pp. 294-295). Sun ku urged in reply that it was easy to raise soldiers and to begin war, but not so easy to end it. The Emperor replied to this that if the kingdom of Hia was not subdued, it would join the Khitans against China, and he ordered five bodies of troops to advance towards Hia: one under the eunuch, Li hien, by way of Hi chau and Ho chau; the second under Chong u, by the country of Fu yen; the third under Kao tsun yu, by way of Hoan king; the fourth under Lieou chang tso, by King yuen; and the fifth under Wang chong ching, by way of Ho tong. The Emperor at the same time ordered Tong chen, the King of Tibet, to attack Hia from the other side.

Li hien mustered the troops of seven departments, and being joined by 30,000 Tibetans, he defeated the army of Hia at Si shi sui ching, and pursued them as far as the defile of Niu chi. This he traversed, and then laid siege to and captured the ancient town of Lan chau on the Yellow River, and wrote to ask permission to fortify this place as an outpost against Hia. Chong u, having been joined by the troops of Sui ti ching, attacked the town of Mi chi hien (north of Yen ngan fu). The ruler of Hia sent an army of 80,000 men to its relief. This was also defeated in a bloody struggle, and the town was afterwards taken.

Kao tsun yu similarly took the fortress of Tsing yuen, but the eunuch, Wang chong ching, having crossed the river Vu-ting, and entered the sandy desert, lost many men and horses. Ashamed of having done nothing, he entered the town of Yeou chau, which the troops of Hia had abandoned,

fled northwards, and butchered a number of poor families who remained behind, and carried off all their horses and cattle.

Lieou chang tso, who had an army of 50,000 men with him, had agreed with Kao tsun yu to meet on the borders of Hia. Having arrived first, and not meeting with his friend, he advanced to the defile of Mo i ngai, where he met a large force of the enemy and defeated it, and then marched to Ling chau, which he intended capturing. Before going there, he was joined by Kao tsun yu, and the combined army pressed the town hard for eighteen days. Meanwhile, the troops of Hia had been scattered at Mo i ngai. They employed one part of this army in cutting a canal by which the waters of the Yellow River were turned aside and inundated the Imperial camp. They also cut off the road by which supplies reached it. The Chinese had to raise the siege precipitately, and lost an immense number of men, who were drowned or killed, and Lieou chang tso returned crestfallen to King yuen, after losing two-thirds of his men.

Meanwhile Chong u, after the capture of Mi chi hien, had left a garrison of 1000 men there, and advanced with the rest of his army with the intention of capturing In chau, She chau and Hia chau, but after taking She pao ching, he was badly defeated at Fu kia ping, and lost more than half his army. He had barely 30,000 men when he returned to China. The eunuch Wang chong ching, after leaving Yeou chau, held a review of his troops in the country of Nai wang tsing, and found he had lost 20,000 men. Instead of marching, as the order of the campaign provided, towards Ling chau, he went to the foot of the mountain Tien tu, where he burnt a country house of the King of Hia, and captured Gin to lin ting, one of his officers, with his family, whom he put to death, and after encamping at Hu lu ho, he returned to China, being the only one of the five generals who did not reach the general rendezvous.

We are told that when the authorities of Hia heard of the great preparations the Chinese had made to overwhelm them, the courtiers advised Leang chi, the mother of the young sovereign of Hia, to arm all the young people in the country.

An old officer recommended, however, that they should adopt a defensive attitude and lay waste the various routes by which the Chinese must advance. That they ought to put their best troops in the districts of Ling chau and Hia, and form flying columns to prevent the junction of the Imperialists. The princess followed this advice, which was eminently successful, as we have seen. It was the same plan which had been adopted against the Khitans in 1044 (*id.* pp. 297 and 298).

In 1082, Shin ku, the governor of Yen chau, proposed to the Court, in order to close this route into China to the Hia invasion, to build a fortress at the mountain Heng, near the village of Yong lo, west of Nu chi hien, in Yen ngan fu of Shen si. Some days after the work was commenced, an army of 300,000 men of Hia marched to prevent it, and encamped at King yuen. Sin hi, the Imperial general, rashly offered battle under the walls of the town, his army consisting of 70,000 men. A body of cuirassiers, the picked troops of Hia, proceeded to cross the Yellow River. Kui cheu advised an attack while they were crossing. Sin hi, who was obstinate, waited till they were over, and then charged them vigorously; but the movement was repulsed, and the Chinese compelled to retire to the town. The enemy now turned aside the various streams that entered the town, and the wells dug by the garrison contained no water. Terrible distress followed, and in a few days two-thirds of them had perished. The troops of Hia occupied all the roads by which reinforcements could arrive. The town was captured, Sin hi and many other officers were killed with arms in their hands, while 200,000 people, soldiers and workmen perished.

The army of Hia now captured six fortresses, which had been built to protect the frontier, and also secured the military chest with a large sum in it, and all the magazines of provisions. It was the most serious disaster the Chinese had suffered for many years; the Emperor was much distressed and ceased his efforts against Hia, which was content with their victory (*id.* pp. 299-301).

Li ping chang, King of Hia, died in 1086 and was

succeeded by Li kien shun. The grandees sent to inform the Imperial Court of their King's death. One of them was charged with the duty of settling certain difficulties about the places they had conquered and the Chinese prisoners, and also to ask for letters-patent for their new sovereign. The towns were given up and the other matters duly arranged (*id.* vol. viii. p. 308).

In 1090 the King of Hia returned the Chinese prisoners he had in his hands, to the number of 149, and asked for the restoration of the four fortresses of Mi chi, Kia lu, Fion tu, and Ngan hing, the last in the district of King yong fu, in Shensi, threatening to take them by force if refused. The Empress-regent, who did not wish for war, gave up these places, which only made the authorities of Hia more exacting (*id.* vol. viii. p. 313).

In the latter part of 1096 Li kien shun, the King of Hia, at the head of a large army, attacked the district of Yen chau, and captured the fortress of Kin ming chai. After the four towns which he had demanded had been made over to him, he had pressed for several years for a delimitation of the frontier, and proposed to exchange the fortress of San men for that of Lan chau, and, piqued that none of his offers were accepted, he marched 150,000 men by way of Fu chau and Yen chau; he passed to the west of Shan ning and Chao ngan, and to the east of He shui and Ngan ting, while on the south he followed the route of Sai men, Long ngan, and Kin ming. Occupying more than 200 li of country, he advanced to within 5 li of Yen chau, and then laid siege to the fortress of Kin ming, which was defended by Chang yu with a garrison of 2800 warriors. It resisted bravely, but Chang yu having been killed, and the provisions and munitions exhausted, it was forced to surrender. Only five of the garrison escaped. The Sung Emperor seems to have treated the matter as a joke, and foretold that the Hia would speedily retire, and this in fact happened after they had taken Kin ming. Chang tsiei, the commander of Wei chau, proposed to the Emperor to build a fortress on the river Hu lo, to restrain the Hia. Having collected a large force from Hi

chau, Ho chau, Tsin chau, Fong chau, Hoan chau, King chau, Fu chau, and Yen chau, he divided them into three bodies, two of which built a small fortress at Hia kiang keou of She men, and another south of the river Hao chui, while the third founded the town of Ping hia in the district of Chin yuen hien of Ping leang fu. The people of Hia opposed this, but were defeated, and the town was completed in 22 days (*id.* vol. viii. pp. 318-320).

In the latter part of 1098 news arrived at the Court of the Sung Emperor that the people of Hia, annoyed that their depredations were interfered with by the foundation of the new town of Ping hia, had determined to take it, and were then besieging it. Chang tsiei, the officer who sent this news, marched against them, surprised their camp, and killed many of them, making others prisoners, among the latter being Wei ming amay, their best general, and Mei li tu pu, one of their chief officers. The news was very grateful at the Court. Chang tsiei knew their country well, having long commanded on the frontier, and he built up forts which protected the western borders of China from them. Distressed by the loss of the battle of Ping hia, they appealed for help to the Khitan Emperor, who did not wish to embroil himself with China, and replied that he would use his good offices for peace, if they, the Hia, would cease making incursions on the Sung Empire. The Khitan Emperor accordingly sent to the Sung Court to use his good offices. The Sung Emperor replied that the King of Hia must begin by recognizing his fault and promising to amend. In consequence of the negociation, the King of Hia sent Lin neng and Wei min tsi as envoys to make excuses for what had happened, and to offer a new act of submission. Peace was granted, and the Emperor promised that the silks and money which used to be sent to Hia each year should be continued. Thenceforward, the Chinese on the frontier, not being molested as before, began to breathe freely again (*De Mailla*, vol. viii. pp. 323-325).

We now arrive at the period when the Kin Tartars broke up and destroyed the empire of the Khitans or Liau; and

we are told that in 1123 the Khitan Emperor was very hard pressed by the Kin Tartars, and received an invitation from Li kien shun, the King of Hia, to take shelter with him. This he accepted, and having crossed the Yellow River, arrived at Kin fu, whence he despatched letters-patent creating Li kien shun Emperor (*id.* p. 409); but shortly after, not feeling himself safe, he crossed the Yellow River again, and fled towards Mongolia (p. 413).

By a treaty which the Kin Tartars had made with the people of Hia to prevent them from giving an asylum to the fugitive Khitan Emperor, they had made over to them all the ancient country of Topa and Yun chung. The ceded district, we are told, was more than 2000 *li* in extent. The towns of U chau and Su chau within this district were apparently in the possession of the Chinese of the Sung dynasty: but the Hia were promised that if they could obtain possession of them, they should not be opposed; but on learning that they had given their enemy shelter, they withdrew their promise, except as to U chau and Su chau, which they were permitted to take if they could. It would seem they were not satisfied with this arrangement, and were several times beaten by the governor of Yun chung; but we are told he could not make them desist from their enterprise, probably a euphemism for "they had their way" (De Mailla, vol. viii. pp. 415 and 416). This took place in 1124.

The next year, while the Khitan Emperor was still at the mountain Kia, meditating a return to the country of Hia, envoys went to him from Siao hu lo, a chief of the Tang kiang, who went to invite him to go to his country. The exiled monarch at once set out by way of Tien te, where he suffered great hardships, and at length reached the country of Tang kiang, where he was received with every mark of respect by Siao hu lo, whom the Emperor rewarded by appointing him general of the provinces of the south-west, and made him at the same time commander of all his troops. The illustrious fugitive was, however, captured by the pursuing Kin troops when but sixty *li* from Ing chau (Visdelou seems to call

Ing chau Yu tu, *vide* p. 253), which we are told was the capital of the Tang kiang (*id.* p. 418).

In 1127, the Emperor granted the King of Hia some territory (Visdelou, p. 255).

In 1139, Li kien shun, King of Hia, died, and was succeeded by his son Li gin hiao (De Mailla, vol. viii. p. 528), whose long reign was marked by a peaceful intercourse with the Kin Tartars.

Up to the year 1170, says De Mailla, while the Kin empire had been distracted by internal troubles, that of Hia had enjoyed tranquillity and peace, but in that year Gin te kin, a minister of Li gin hiao, who was still King of Hia, commenced a course of intrigue and determined to share his master's throne. The latter, who was a weak person, consented on condition that they obtained the permission of the Kin Emperor, of whom they recognized themselves as tributaries. They accordingly sent him a copy of their pact. U lo, the Kin Emperor, who was much surprised at the proposal, and easily saw who was its real author, determined that an injustice should not be perpetrated, refused his assent. His ministers urged that if this foreign king and his minister were mad enough to struggle together, it was to his interest to remain neutral, and not to prevent the arrangement, however extraordinary it might appear. U lo was not convinced by their arguments. He said the people of Hia had depended on the Kin for many years, and he would not see them oppressed. If their king was not strong enough to defend himself, he would protect him, and he accordingly sent back the messengers with an envoy with the following answer: "Prince, you ought to deem as a sacred trust the heritage you received from your fathers. It is not lawful for you to alienate any of it. The thing you have asked cannot be granted without due consideration. I do not know the motive for it, and it is to discover it that I am sending you this officer. Open your heart to him, and disclose the root of the evil. I will supply the remedy." This answer disconcerted Gin te kin and encouraged Li gin hiao, who aroused himself from his lethargy. Gin te kin, seeing himself outwitted by the Tartars, turned to the officials of

the Sung empire, who guarded the frontier between the two powers; but their correspondence having fallen into the hands of a native of Hia, he took it to Li gin hiao, who ordered Gin te kin to be arrested and beheaded (De Mailla, vol. viii. pp. 596-598). It seems that at this time there was a considerable trade by way of barter between the Kin and Hia, the former exchanging their silks for the precious stones of Hia. The Kin Emperor in 1172 at a council objected to giving away articles of necessity for mere curiosities which could only satisfy pride and vanity, and he forbade the continuance of this commerce (*id.* p. 599).

Li gin hiao died in the end of 1193, after a reign of 55 years. He was the first, we are told, who founded a college in his dominions for the instruction of youth, and had it so much at heart that he often visited and gave lessons there himself. On these occasions, when he spoke of Confucius, it was always under the name of Wen siuen ti, *i.e.* "Emperor of true eloquence." He was wise and learned, but had not the strength to rule an empire, and his grandees usurped a great deal of power. He was succeeded by his son Li shun yeou (*id.* p. 623).

In the year 1206 Li ngan tsiuen, the son of Li gin yeou, prince of Yuei, who belonged to the royal stock of Hia, rebelled against Li shun yeou, and dethroned him, and, without any bloodshed, had himself proclaimed King of the Hia. Li shun yeou died shortly after (*id.* p. 653).

It was the year before this resolution that Chinghis Khan made his first attack on Hia, which he afterwards so terribly devastated. He captured the strong border fortress of Lairi, (which means holy mountain in Tibetan), and then took the town of Lu se, called Keleuk lushi (var. Kelen kushi and Assa kinkelous by Rashid-ud-din). Thence he carried off a large booty in camels and horses (D'Ohsson, vol. i. pp. 96, 97 note; De Mailla, vol. ix. p. 40; Yuan shi, by Douglas, p. 51).

On his return home from this journey, Chinghis met a shepherd boy of the Tang kiang race, named Chakan, who was tending a flock of sheep. He had placed a stick in the ground, and having put his cap on it, he bent the knee and

bowed the head before it, and then danced and sang as if to entertain it. On being questioned why he did this by Chinghis, he replied, "If two people are together, the younger ought to pay his respects to the elder. As I was alone, there was nothing but my cap to which I could pay reverence. I was but following the example of courtiers." Chinghis was pleased with the answer, and learning that he was a son of a minister of the King of Hia, and that his father had a concubine, who treated him so ill that he preferred to tend sheep to living at home, he took him with him, and handed him over to his wife Burte Fujin. At first his new life did not suit him, and he longed to be back with his sheep, and used to sleep on a mat with the open sky overhead. One night, as he so lay, with his shoes beside him, an owl came and persistently hooted close to his ear. Throwing one of his shoes at it, he killed it. When Chinghis heard of it, he reproved him, saying it was his good genius and that he should not have killed it. Fortune continued, however, to smile on him. Chinghis married him to one of his household, and he became very useful. His nomadic training having fitted him for the duties of a scout, etc., it was his report on the condition of the Yai lu pass, after the capture of Yun chung, which induced Chinghis to attack it (Douglas, pp. 52, 53; De Mailla, vol. ix. p. 40).

In 1207 Chinghis again marched against Hia, which, we are told, had failed to send the promised tribute. This expedition captured the town of Wuh la hai. Porter-Smith describes Wuh la hai as one of the seven lus of the Mongol period, including (? included in) Tangut or Kansuh (*op. cit.* p. 63).

Two years later, namely in 1209, Chinghis again attacked the Hia empire. Li ngan tsiuen was still King there, and he sent his son the hereditary prince against him; but he was beaten, and his lieutenant-general, Kao ling kong, was captured. He then captured Uiraka, which in Tibetan means the passage through the Wall (D'Ohsson, vol. i. p. 105, note 4). The Yuan shi calls it "the Wu leang hi pass through the Great Wall" (Douglas, p. 58). There the Imperial tutor, Se pe she, was taken prisoner. The fortress of Imun, *i.e.* "the

Barbarians' Gate" was also taken (*id.*) and there was captured Wei ming ling kong, after which the Mongols crossed the Yellow River and attacked Chung sing, the Calatia of Marco Polo, and now called Ning hia, which was the capital of the empire of Hia (Porter-Smith, Vocab. p. 5). Finding the city too strong, Chinghis tried to turn the waters of the river into the town; but the current burst the artificial banks which he had erected, and flooded his own camp so destructively that he was obliged to raise the siege. Thereupon he determined to gain his end by peaceful means, and sent an envoy into the city to invite the King to treat with him. To this the King agreed, and in token of his friendship he sent Chinghis his daughter to wife (Douglas, p. 58; De Mailla, vol. ix. p. 43).

De Mailla also says that the King of Hia acknowledged himself Chinghis' tributary (*id.*). It would seem that in their distress the Tangutans had appealed to the Kin emperor Chong hei for aid; but he had enough on his hands, and could spare no troops. It was through pique at this refusal, apparently, that, in 1210, they sent an army to attack the town of Kia chau; but it was beaten, and they had to raise the siege. This was after a peace with the Kin which had lasted for eighty years. The next year, *i.e.* in 1211, Li ngan tsuen, King of Hia, being dead, was succeeded by Li tsun hui, who, in 1213, captured the town of King chau from the Kin Tartars (De Mailla, vol. ix. p. 57). In 1218 Chinghis marched once more against Hia, and Li tsun hui, called Li tzun hien by D'Ohsson, apparently after Hyacinthe (*op. cit.* vol. i. p. 162), seeing his capital threatened, fled to Si leang, *i.e.* Liang chau fu, in Kansuh (De Mailla, vol. ix. p. 84: D'Ohsson, vol. i. p. 162).

Ssanang Setzen has a curious saga relating to the intercourse of Chinghis Khan and the Tangut ruler. He tells us that when Shidurgho Khakan of Tangut heard that Chinghis had conquered the kingdom of the Altan Khakan, *i.e.* of the Kin Tartars, he began to fear very much, and sent Toitong, the son of Bayan Sartaghoi, with the following message: "I will be thy right hand and pay thee tribute." Chinghis accepted his submission, and sent the envoy back with presents. On his way home the latter stayed the night

in the house of the Taijut Yabugha. As they sat together in the evening, he said to his host, "Your Khakan seems like a son of the gods, but his wives are very ungainly. The countenance of our princess Kurbeljin is so bright that you need no other lamp in the night." Thereupon, Mongulun Goa, the wife of Yabugha, wrote to Chinghis, telling him of the beauty of the Tangutan queen, and declaring that she ought to be his wife. At this time Chinghis sent envoys to Shidurgho, to say he meditated a campaign against Sartaghoi (*i.e.* the empire of Khuarezm), and asked him to be his right hand. Shidurgho replied, "Is the Khan not satisfied with the subjugation of all nations? What am I to you? The lion king of beasts is the strongest of all; but you are an incarnate god and king of men, why should you need help?" Chinghis was enraged at this answer, and threatened to give him a proper reply in due time, if the Gods would permit (*op. cit.* p. 85).

In 1221, Mukhuli, after a brilliant campaign against the Kin empire, turned his steps northwards to subdue Shen si. The King of Hia, who was much moved by his approach, sent some of his principal officers to give him a feast on the south of the Yellow River, and presently sent a contingent of 50,000 men under Tako campu to join him (*De Mailla*, vol. ix. p. 98).

When Mukhuli had captured Poma and Keyong, and was still in the neighbourhood of those towns, Mipu went to join him on behalf of the King of Hia with a contingent of troops. A question arose about the proper etiquette he was to use. Mukhuli replied he must behave towards him as his master would behave in the presence of Chinghis Khan; and as the Mongols claimed to be the suzerains of the people of Hia, this meant he was to submit humbly to him. Mipu excused himself on the ground that he had not received any definite orders, and retired with his troops; but presently, when Mukhuli had captured Yen ngan in Shen si, Mipu went and held the reins of his horse, and saluted him as Mukhuli had demanded (*id.* pp. 98-99).

Mukhuli died in 1223, and his death was followed in the

same year by that of Li tsun hia, the King of Hia, who was succeeded by his son Li té (*id.* p. 108). Li té is apparently confused with his father, and also called Shidurgho by Ssanang Setzen. Shidurgho is a Mongol word according to Schimdt, answering to the Tibetan Srong, and meaning open and straightforward (*op. cit.* p. 383). Erdmann says that in the tongue of the Tanguts (*i.e.* in Tibetan), he was called Iran (Temujin, etc., p. 439). On his return from his western expedition, Chinghis turned his arms against him; his alleged grievance being that he had given shelter to one of his enemies named Shilgaksan-hona, and had refused to give up his son as a hostage (D'Ohsson, vol. i. p. 370). Ssanang Setzen, as I have said, makes out that his wife was a great beauty, and much coveted by Chinghis. He also tells us a curious Saga about this war, and says that the King of Hia had a brown-coloured dog with a black muzzle, which could prophesy. When war was impending, it used to howl; when, on the contrary, peace was in store, then it barked. Now that Chinghis was returning home, the dog began to howl. His master, however, in fancied security, thought the dog was growing old, and losing its old power (*op. cit.* p. 97).

He is said to have been very powerful, and to have commanded the services of 500,000 men. Chinghis evidently deemed the campaign a trying one, and prepared accordingly. He got together 180,000 men, of whom he entrusted 40,000 to the command of Jagatai, 30,000 to Chepe and Subutai, 20,000 Khuarezmians to Ilenku, 20,000 Indians to the Noyan Bela, 30,000 Jetes and Kipchaks to Bedr-ud-din, 30,000 other Khuarezmians under Danishmend, besides a contingent supplied by the King of the Uighurs (Erdmann, p. 439). Chinghis set out from his Ordu in the spring of 1225, and having crossed the Kanghai chain, he first held a grand hunt about the sources of the rivers Onghin and Tingol, which lose themselves in the sands and marshes of the Gobi desert. The Saga-loving Ssanang Setzen mentions various omens that attended the Mongol hero's last campaign. During the hunt Chinghis one day observed: "In this district is a blue wolf and a

white hart (? a reference to the legend of the origin of his race). Catch them and bring them to me alive. Here is also a black man on a blue-grey horse, do the same with him." They were accordingly found and taken to him. He then addressed the man, "Who are you, and why are you here?" "I am a friend of Shidurgho's," he said, "and he has sent me for information. My name is Katurakchi Kara Budung, and in all Tangut there is none superior to me. I was captured unawares, while I lay my black head down to rest, and while my blue horse, Gunu Bolod, a racer which no creature that has feet can catch, was tethered to the ground by his four feet." Chinghis, seeing he was a brave man, spared his life and said, "They say your master is a Kubilghan (*i.e.* a regenerate Buddha). Into what form can he convert himself?" The man answered, "In the morning he changes himself into a black striped snake, at noon into a tawny striped tiger, and at night into a little child, and man cannot injure him" (*op. cit.* p. 99; Howorth, *Hist. of Mongols*, vol. i. pp. 100 and 101). While Chinghis marched through the Mona mountains, he remarked, "This would be a capital rallying place for a broken, and a capital camping ground for a united and peaceable people. It is a beautiful grazing ground for roebucks and a charming resting place for an old man" (Ssanang Setzen, p. 99). While there Chinghis noticed an owl shrieking in a bough, and he told his brother Juchi Kasar to kill it. The latter shot, but the owl escaped; meanwhile a magpie came in the line of fire, and an arrow, which was aimed at the owl, brought it down. This was accepted as a bad omen, and Chinghis was in a great rage, and had his brother chained and watched by four men. Then the Orluks, *i.e.* Chinghis Khan's famous eight champions, said, "Master, the stains of the vile ought not to foul the purity of the good. The most deserving and distinguished often meet the fate of the worthless. The fate of the ill-omened owl has overtaken the magpie; let thy brother go." Chinghis would have done so, but he had become jealous of him, a slave having slandered him by accusing him of intriguing with his wife Chulan (*id.* pp. 99-101). Chinghis set out on his last campaign in the

latter part of 1225 and entered the kingdom of Hia in February, 1226. He first attacked Etzina, described by Marco Polo as situated a 12 days' ride from Kan chau towards the north on the verge of the desert. De Guignes and Pauthier say Etzina is found in a map of Hia of the Mongol period, and the latter adds that the text of the map names it as one of the seven *lus* or circuits of Kan suh (Yule, Marco Polo, vol. i. p. 220). Klapproth says the river Thao lai kho is formed by the junction of numerous streams which rise in the mountains of Amuniekü or Aminye eki to the North-west of Kuku nur. It flows past Suh chau towards the North-east, and after leaving China joins the river Khe shui which comes from the South-east from Kan chau. After the junction the river takes the name Etzina and falls into the lakes of Sabo and Sogo, of which the latter was in the Ming period still called I dsi nay khai, *i.e.* lake of Idsinai. He with great probability puts the town of Etzina on this river (Klapproth, *Beleuchtung*, etc. p. 65 note). The Yuan shi does not name Etzina, but instead mentions the capture of the town of Ho shui chin (D'Ohsson, vol. i. p. 370; Douglas, p. 98), which clearly means the same place, and Colonel Yule, apparently without knowing this, has suggested that a town called Hoa tsiang placed on this river Etzina in D'Anville's atlas is to be identified with Etzina (*op. cit.* p. 220). Etzina and other places having been captured, Chinghis went to pass the summer heats in the mountains of Khun chu, and then captured the towns of Suh chau and Kan chau. The latter was governed by Kia ye kie lin, the father of the boy Chakan already mentioned, who was ordered to communicate with his relatives. Having fixed a note addressed to his younger brother to an arrow, he fired it into the town. The boy was only 12 years old. He appeared on the ramparts, but they would not let him leave the town. Chakan then sent a confidential person to communicate with his father. The latter, it seems, was agreeable to surrender the place, when Achu, his second in command, at the head of 36 men, killed the envoy, the governor and his son. They then prepared a vigorous defence, but all in vain. It was taken by assault. A general butchery was only avoided

by the pleading of Chakan, and the only people executed were Achu and his 36 accomplices (De Mailla, vol. ix. p. 117; Douglas, p. 100). Chinghis then captured Si liang fu, Solo and Holo in Kansuh; the first of these towns is doubtless the well-known Liang chau fu of the maps, which is very probably the Erguiul of Marco Polo. Then crossing the Shato or desert he arrived at Ki yu tu, or the nine fords over the Yellow River (De Mailla, vol. ix. p. 117; Douglas, p. 100; D'Ohsson, vol. i. p. 371). He then captured Yingle (written Yar by Hyacinthe) and other towns of the second order (Douglas, p. 101; De Mailla, *id.*; D'Ohsson, *id.*), and then despatched his generals Silitsienpu and Hutu Timur to summon Sha chau, which lay considerably to the west on the borders of Khamul and is a well-known city. Its people pretended to submit to the Mongols, and prepared meat, wine, spirits and other refreshments, as they said, to feast their army with. But, meanwhile, they planted their best men in ambush, intending to surprise them. Hutu Timur, who had trusted them, set out to take possession of the town. He fell into the ambush and was nearly captured; for his horse stumbled and threw him. Silitsienpu mounted him upon his own horse, came to the rescue, and succeeded in defeating the enemy without great loss (De Mailla, *op. cit.* pp. 117-118).

Shortly after, Li te wang, called Terwang by Mr. Douglas, died of grief at seeing his country the prey of the Mongols, and was succeeded by his son Li hien, the Le seen of Mr. Douglas. The Mongols continued their successes, and captured nearly all the towns of Hia. Neither the mountains nor caverns sheltered the miserable inhabitants: they nearly all perished, and but two in a hundred escaped (De Mailla, p. 118).

In the spring of 1227, Chinghis attacked the town of Ling chau, situated on the right bank of the Yellow River, a little south of Ning hia. An army was sent to the succour by the King of Hia, under Vei min. Chinghis crossed the Yellow River, defeated the enemy, and, returning again, took the city. He gave it up to pillage, and we are told the officers and soldiers thought of nothing but of capturing women and

children, gold and silver, etc., while the famous Yelu chutsai, who had entered the service of the Mongols, took charge only of the archives and of two mule-loads of rhubarb, which proved most useful in an epidemic that occurred not long after (*id.* pp. 121 and 122; D'Ohsson, p. 373). We are told that at the siege of this town the five planets appeared together in the south-west, which was considered to be a bad omen by the soothsayers, and Chinghis determined to retire for a while to the valley of Yen chau, where he encamped (Douglas, pp. 101 and 102). Hyacinthe calls this place the river of Yan chau chuan (D'Ohsson, vol. i. p. 373). De Mailla tells the story differently, and says that after the capture of Ling chau the King of Hia, deeming all lost, determined to try a last effort, and, confiding his troops to Seni ming ling kong, sent him against the Mongols. Chinghis thereupon crossed the Yellow River, defeated him, and then went to encamp at Yen chau chuen, where Yao lisse, the widow of Yelu liuko, created prince of Liautung by Chinghis, went to meet him (*op. cit.* p. 122). This is doubtless the battle above-mentioned, and of which Rashid-ud-din gives an exaggerated account. According to him, the Mongols, after capturing many towns, laid siege to Derssekai (*i.e.* probably the native name of Ling chau), when they heard that the King of Hia, whose native name was Shidurgho and his Chinese name Li wang, had left his capital, Irkai, and advanced at the head of 50 tumans, *i.e.* 500,000 men (doubtless a great exaggeration, the probable number being 5 tumans, or 50,000 men), Chinghis Khan went to meet him, and encountered the enemy in a plain covered with lakes formed by the overflow of the Kara Muran (*i.e.* the Hoang ho, which was called Kara Muran by the Mongols): it was then frozen over. The battle was so bloody that 300,000 (say 30,000) Tangutans are said to have perished. Three dead men were found on their heads, and, according to Rashid, the Mongols affirmed that among ten tumans of corpses there was a corpse that stood up thus (D'Ohsson, p. 373, note).

The Derssekai or Tersekai of Rashid-ud-din I have little doubt is the Turmegei of Ssanang Setzen, which Schmidt identified with Ninghia (Ssanang Setzen, note 55). This

clears up considerably the crooked subject of Tangutan topography. The story about the corpse standing on its head is explained by D'Ohsson, who tells us, quoting Vincent of Beauvais, that after a battle the Mongols were accustomed to put a corpse with its head on the ground and its feet in the air for every thousand of the enemy slain—a huge and grim “tally” in fact; and that on the capture of Tiflis in 1221, seven bodies so placed meant the slaughter of 7000 men (*op. cit.* pp. 373–4, note). This not only explains the statement of Rashid, but also shows what exaggeration there is in the Persian accounts of the Mongol slaughters. Ssanang Setzen in describing the siege of Turmegei, tells us it was surrounded by a triple line of troops. During the siege, an old woman called Kara khang, who was skilled in sorceries, stood on the wall, and performed her incantations, causing much evil to man and horse. Thereupon, Subutai appealed to Chinghis to release his brother Khasar, who had been arrested as I have mentioned, and who was a splendid shot. Chinghis consented, and allowed him to mount his own horse called Jigurtu khula. Khasar thereupon approached the town, and shot the old wife in the knee and killed her (*op. cit.* p. 101). The Chinese accounts mention that the Mongol army suffered from sickness in Tangut. I may add that Ssanang Setzen confirms Rashid-ud-din in styling the King of Hia, Shidurgho. After taking Ling chau, Chinghis, leaving a body of troops before the capital of Hia (*i.e.* Ninghia), crossed the Hoangho and captured Ki shi chau, called Tse she by Mr. Douglas, and identified by him with Tsih shi, west of the modern Ho chau; Lin tao fu in the modern Ti tao chau, a little north of Ling chau; Tao ho chau, in the modern Tao chan ting; and the famous city of Sining (Douglas, p. 102; De Mailla, vol. ix. p. 125); all of them were situated not far from the Hoangho, to the south and southwest of Ninghia. After capturing Sining, Chinghis advanced upon Lungti (the Lungter of Mr. Douglas), situated to the west of Pin leang fu in Kansuh, and captured Te shun chau (Tershun of Mr. Douglas), and other towns (Hyacinthe, quoted by D'Ohsson, p. 374). He now sent off an envoy to

the Sung court at Nan king, and prepared to pass the summer heats in the mountains of Liu pan.

A kind of presentiment, we are told, seized him that he was about to die, and summoning his officers, he said to them, "My time has come. Last winter, when the five planets appeared together in one quarter, was it not to warn me that an end should be put to slaughter, and I neglected to take notice of the admonition? Now let it be proclaimed abroad, wherever our banners wave, that it is my earnest desire that henceforth the lives of our enemies shall not be unnecessarily sacrificed" (Douglas, p. 103). At this point the authorities differ. The Yuan shi says that Li hien, the King of Hia, surrendered, and was sent a prisoner into Mongolia (Douglas, p. 103). Gaubil's authority says he had hardly left his capital (Ninghia) on his way to Liu pan when he was slaughtered. The Persian authors, on the other hand, say that Ning hia being reduced to the last extremity, Li hien sent envoys to Chinghis with his submission. He only asked a month in which to surrender his capital. Chinghis consented to this, and promised to treat him as his son. Feeling his end approach, we are told, he ordered his generals to keep his death secret; and when the King of Hia came out of the town, to kill him, and all the people of Ning hia,—an order which was faithfully executed (D'Ohsson, vol. i. pp. 378 and 381).

The mountain of Liu pan, where Chinghis spent the summer, is, according to Hyacinthe, in the district of Ping liang fu, and Dr. Bretschneider says it still bears the same name, and is marked on modern maps in the department of Ping liang in Kansuh, south of the city of Ku yuan chau.

The Yuan Shi does not mention the mountain, but says the Mongol army was encamped at Tsing hui, the Tsing shui hien of D'Ohsson, a town of the third order, situated on the Si kiang, about 12 leagues east of Tsin chau, marked on D'Anville's map of Shensi at 34° 42' N. L. and 10° 18' W. L. from Peking (D'Ohsson, vol. i. p. 378 note). There he was taken ill. Ssanang Setzen, whose narrative abounds with like stories, makes out he was a victim of the incantations of the King of

Hia. His story is as follows: "When Shidurgho Khakan (*i.e.* the King of Hia) converted himself into a snake, Chinghis appeared as Garuda, the king of the birds; when the former was changed into a tiger, the latter became the king of the four-footed beasts, the lion; and lastly, when the former took the form of a boy, the latter became Khormusda, the king of the Tegri or spirits, so that Shidurgho fell into the power of Chinghis without any effort. Then said the former to the latter, 'If you kill me, it will bring evil upon you; if you forbear, it will prove fatal to your posterity.' Chinghis then tried to strike, but found he could not hurt him. He thereupon said, 'With a common weapon you cannot harm me, but between the soles of my boot there is a triple dagger made of loadstone, with which I may be killed.' With these words he offered him the weapon, saying, 'Now you may kill me. If milk flows from the wound, it will be an evil token for *you*; if blood, then for your *posterity*. Let me also counsel you, if you make my wife Kurbelshin Goa your own, probe her previous life diligently.' When Shidurgho was pierced in the neck with the dagger, he died, and Chinghis appropriated his wife and people.

"Every one wondered at the beauty of Kurbelshin Goa, but she said, 'I was formerly much prettier, but am now grimy with dust from your troops; when I have bathed in the river, I shall renew my good looks.' As she went down to the Kara Muran to bathe, a bird from her father's house hovered over her, and allowed itself to be caught. She spoke aloud and said, 'I am ashamed of bathing before all this company, let them begone; I will bathe alone.' When they had left, she called out, 'I intend to seek my death in the Kara Muran. Let my body be searched for up the stream and not down.' She then let the bird escape, and it flew home to tell her father. When she came out of the bath she had become much more beautiful. The following night, when Chingis lay asleep, she bewitched him, upon which he became feeble and ill. She then arose, went down to the Kara Muran, and drowned herself, whence the Kara Muran to this day is called Khatun Eke.

"When the bird related to her father, who was called Shang

dsa wang ya, and was of the family of U, from the Chinese town of Irghai, he went to look for his daughter's body, which he did not find, but found only one of her pearl-embroidered socks. On this, he raised a mound of earth, still called Timur olkho" (Ssanang Setzen, pp. 101-103).

Schmidt remarks in a note that the upper Kara Muran, or Yellow River, is still undoubtedly called the Khatun Muran by the Mongols, and that he has found the name in several writings; he also mentions that Carpini and Marco Polo, both contrary to the Chinese and Persian authors, say that Chinghis did not die a natural death; the former making him be struck by lightning, the latter be shot by an arrow. But these statements are of small value compared with those of the Chinese annals, and the whole story as told by Ssanang Setzen shows the mysterious atmosphere in which the Lamaist faith surrounds its votaries. Ssanang Setzen says Chinghis died in the town of Turmegai, *i.e.* Ning hia (*id.* p. 105), the Yuan shi says he died in the camp of Halowtu or Kara tu, near the river Sali or Sari (Hyacinthe, quoted by D'Ohsson, p. 378, note; Douglas, p. 104).

With the conquest of Hia by the Mongols there passed away another great empire, which was swallowed up in the mighty conquests of Chinghis Khan.

ERRATA IN MONS. T. DE LACOUPERIE'S PAPER ON THE YH-KING.

By a regrettable mistake, this paper has been printed, after only one revision from the Author, and the corrections to the tables have been entirely forgotten or have crept into the text. Careful readers and scholars are respectfully invited to take these corrections into consideration before criticising the paper.

SECTION	LINE	FOR	READ
42	15	Kien-Lang	Kien-Lung.
47	10	Liang-Kin	Liang-Kiu.
48	5, 9	„	„
„ n. 3,	6	<i>Kin</i>	<i>Kiu</i>
52	3	Chên	Chen.
56 n. 3,	1	<i>Notice su</i>	<i>Notice du.</i>
57	27	Guippos	Quippos.
„	29	mentioned in	in mentioning.
67	19	Visum cuum	Visum currum.
80	11	Yaon	Yaou.
„	18	Kao-aow	Koo-sow.
83	5	subreptitiously	surreptitiously.
88	7	Yê of Kân	Yì of Kân.
89	12	Chun Tsin	Chun Tsiu.
90, col. 3,	7, 8	The Sze who makes	The Sze defines.
„ „	1, 26	辰	長.
92	14	} <i>Æt-ya</i>	<i>Æt-ya</i>
113	13		
117	6		
93, col. 3,	15	The <i>K'ien</i> bird	The singing <i>K'ien</i> bird.
„ „ „	33, 34	enriching when done by	rich by means of his.
„ „ „	36, 37	make <i>K'ien</i>	employ it.
„ „ „	44	The Bird	The singing bird.
„ „	2, 10	鳥兼	兼.
„ „	1, 23	色	邑.
„ „	title	after: THE XVTH CHAPTER, insert 謙 anciently 兼.	

SECTION	LINE	FOR	READ
97, col. 3,	13	Badly settled	Badly housed.
" "	23	wanting	lost repentance.
" "	12	leg, calves	leg's calves.
" "	2, 9		<i>add</i> : to stir up
" "	14		<i>dele</i> =
97 "	2, 23	頗	減.
" "	24	wanting food	lessening.
" "	35-38	<i>dele</i> : or to hold in the	mouth without biting.
" "	1, 32	to join to the preceding.	
99 "	3, 31-35	and obtained advance- ment prosperously in exile	in prosperity and ad- versity.
" "	46 sq.	Kwan, ours lived as a prince without fault	Kwan, ours, lived princely.
			0 0
" "	52 sq.	Kwan, his life (as) prince was faultless ³	Kwan, he lived princely.
			0 0
³ The last two characters are here as in the preceding line, foretelling words, and outside the rhymes.			
" "	5, 32	reading	receding.
100 "	4	Tribes	Cave-men.
101 "	2, 4	(They are) numerous across	Many cross.
109, n. 4	11	Jò	τò
115, n. 2	2	justified in many cases	justified by many cases.
120, n. 1	23	are two	are the two.
" "	25	R. 192	K. 192.
" "	27	<i>dele</i> the correction to § 13.	
Summary		§ 28: The Lo Map	The Ho Map.
		<i>transpose</i> the numbers of §§ 59 and 60.	

For many mistakes in accents, the author requests his readers' indulgence. The dots inserted in the Chinese text have to be dropped altogether.

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